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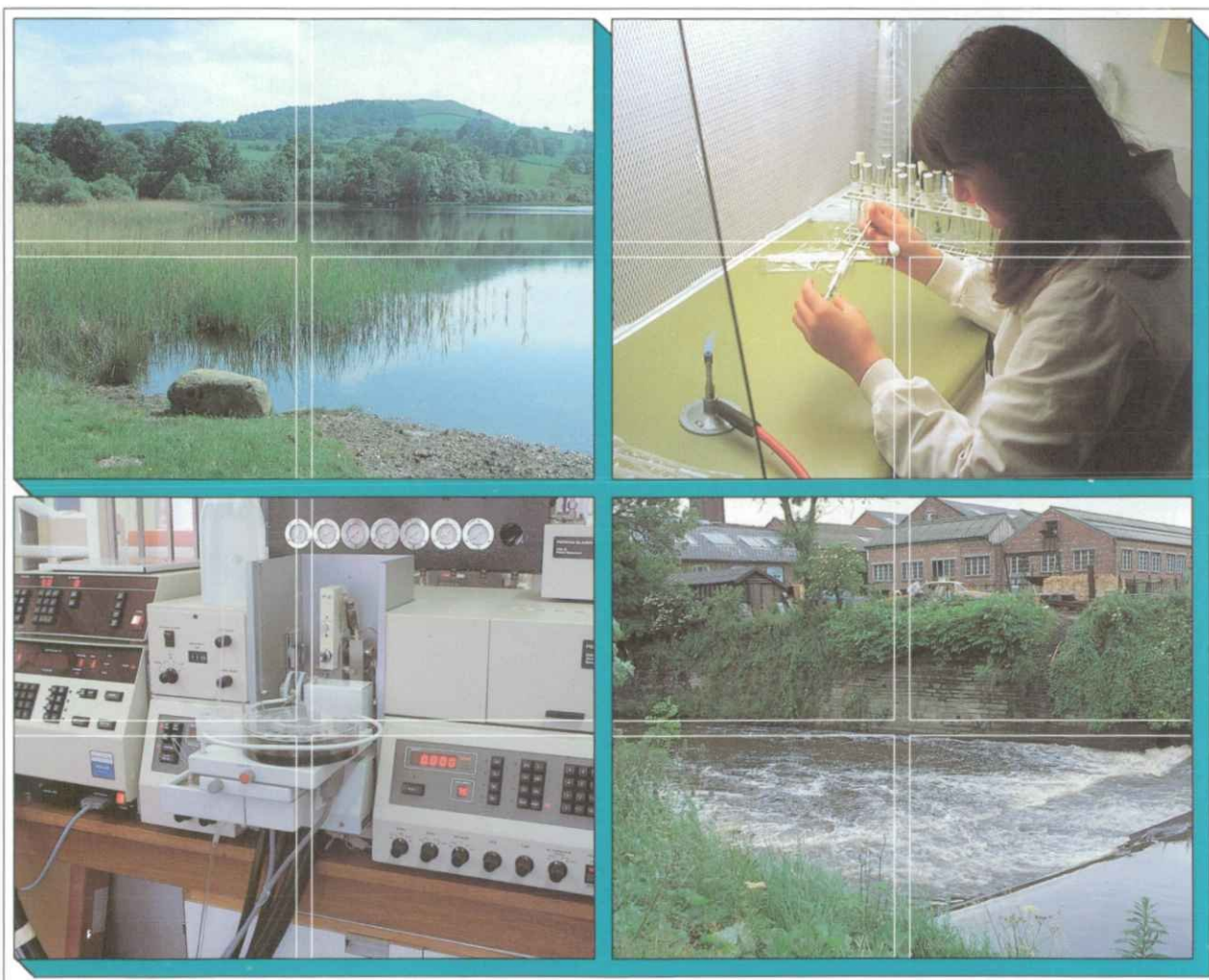
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## MACROINVERTEBRATE SPECIES IDENTIFICATION - COLNE CATCHMENT

Principal investigators:

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Report to The Environment Agency (Thames Region) - July 1997





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## CONTENTS

<b>1. INTRODUCTION .....</b>	<b>1</b>
<b>2. METHODS .....</b>	<b>2</b>
2.1. Sample sorting .....	2
2.2. Macroinvertebrate identification .....	2
2.3. Estimation of abundances .....	2
2.4. Threatened and rare taxa .....	3
<b>3. RESULTS .....</b>	<b>4</b>
<b>4. LIST OF TAXONOMIC KEYS USED IN TAXA IDENTIFICATION .....</b>	<b>51</b>



## 1. INTRODUCTION

The aim of this project was to process and identify, to species level (if possible), the macroinvertebrates present in 46 samples collected from various rivers within the Colne catchment by the Environment Agency (Thames Region) during the period 1993-1996 (Table 1.). In addition, to the compilation of validated taxon lists, there was a remit to provide abundance estimates for each taxa in each macroinvertebrate sample as well as notes highlighting taxa of conservation interest.

**Table 1. Summary of samples collected from rivers within the Colne catchment .**

River <sup>6</sup>	Number of sample sites	Number of samples	Year(s) sampled
Aldbourn	1	2	1995 & 1996
Bulbourne	2	3	1995
Bucknalls Brook	1	1	1996
Chess	6	7	1994 & 1995
Chalk Stream	1	1	1993
Colne	7	10	1994, 1995 & 1996
Colne Brook	3	3	1995 & 1996
Duke of Northumberlands	1	2	1995
Frays	1	2	1995
Horton Brook	1	3	1995 & 1996
Misbourne	2	2	1995
New Years Green Bourne	1	2	1995
Old River Chess	1	1	1995
Ver	2	2	1995
Wraysbury River	3	5	1995 & 1996

## 2. METHODS

### 2.1. Sample sorting

The sample sorting procedures adopted were based on those laid out in the NRA Document BT001, *Procedure for Collecting and Analysing River Macroinvertebrate Samples for RIVPACS Application*. First, the samples were thoroughly washed to remove the formaldehyde preservative, all the material being retained in a 500µm sieve. Small quantities of the washed material were then sorted in water in a white enamel tray marked with sixteen equal sized grid squares. Macroinvertebrates were picked from the tray and placed in either petri-dishes or vials containing 70% IMS. Specimens of the Chironomidae, Oligochaeta and Sphaeriidae groups were stored in separate labelled vials. A maximum of 50 specimens of each taxon requiring microscopic identification were picked out for further analysis. This sorting and picking process was repeated until the whole sample had been processed, each tray being thoroughly searched for macroinvertebrates, in order to ensure that no rare taxa were missed. In those samples where the amount of material was sufficiently great to warrant sub-sampling, quantitative estimates were limited to 25% of the tray area, picked as two separate eighths (see below).

### 2.2. Macroinvertebrate identification

The macroinvertebrates were identified to the level requested in the invitation to tender which was generally to species level or the level required for RIVPACS analysis, using the most recently available keys (see list of taxonomic keys). However, specimens which were either too small or in a poor state of preservation for reliable species level identification were identified to the level appropriate to their size and condition, usually to genus but sometimes to family. If, there were some specimens of a particular taxon mature enough to identify to species level in the same sample as specimens which were not readily identifiable but believed to be the same, then these latter specimens were assigned to the named species. Specific identifications were also provided for some taxa which are normally identified only to genus level for RIVPACS (e.g. *Corophium* sp. and *Oxycera* sp.) but only when specimens were sufficiently mature to allow quick identification.

Difficult and contentious specimens, species with national conservation status (Red Data Book or Nationally Notable) and taxa which occur in less than 5% of the reference sites used in the RIVPACS III data base were examined by two experienced IFE staff members. All such taxa were retained in labelled vials in case of further examination by Environment Agency biologists. Chironomidae, Oligochaeta and Sphaeriidae groups were not identified further but were retained in separate vials for possible genus or species level identification at a later date. The nomenclature follows that laid down in the latest revision of the 'Maitland' coded checklist, a copy of which is held by the Environment Agency (Thames Region).

### 2.3. Estimation of abundances

In those samples without too much material all the macroinvertebrates were identified and counted. For those samples which were sub-sampled, two equal sized fractions (i.e. eighths) were picked and counted separately to provide a maximum and a minimum estimate of abundance for



each taxon, from which a mean value was calculated for the 25% of the total area of the sorting tray that had been picked over. The number of each taxa found in the sub-sample area was then multiplied by four to obtain abundance estimates based on the following logarithmic categories :

- A 1-9 animals
- B 10-99 animals
- C 100-999 animals
- D 1000-9999 animals

Where specimens were removed from outside the sub-sample area, the taxa concerned and the number removed from the whole sample were added to the taxon abundance list. In the situation of where a maximum of about 50 specimens of a particular taxon type was removed and other taxa of a similar appearance tally-counted, the composition of the tally-counted specimens was assumed to be in the same relative proportions as the specific taxonomic composition of those animals (i.e. ca 50 individuals) which were removed and fully identified.

#### **2.4. Threatened and rare taxa**

Accompanying the validated taxon list for each sample are notes indicating whether or not there were any threatened or rare taxa present as defined by the following Red Data Book (RDB) and Nationally Notable categories respectively:

RDB 1 Endangered: Taxa in danger of extinction and whose survival is unlikely if the causal factors continue operating.

RDB 2 Vulnerable: Taxa believed likely to move into the Endangered category in the near future if the causal factors continue operating.

RDB 3 Rare: Taxa with small populations that are not presently Endangered or Vulnerable, but are at risk.

Nationally Notable: Taxa known to occur in fewer than 100 10 km squares of the National Grid.

In addition, records of those taxa which occur in less than 5% of the RIVPACS III data base are also highlighted to indicate those species which are infrequent members of the macroinvertebrate fauna within the wide range of running waters included in the selected 614 reference sites. It should be stressed that species with a low frequency of occurrence in the RIVPACS III data set do not necessarily merit RDB or Nationally Notable status as many of these taxa, though rare in rivers, are common in standing waters or other types of water body.

### 3. RESULTS

The results for each of the 46 samples are listed in the following pages in alphabetical order according to the river sampled. For every individual sample there is a validated taxon list with abundance estimates and notes highlighting rare taxa. A summary list of the RDB and Nationally Notable species found during the study are given in Table 2.

**Table 2. Red Data Book and Nationally Notable species recorded in study.**

TAXA	CONSERVATION STATUS	No. OF SAMPLES FOUND IN	No. OF SITES FOUND IN
COLEOPTERA <i>Haliphus laminatus</i> Schaller	Notable	Four	Three
<i>Gyrinus urinator</i> Illiger	Notable	One	One
<i>Riolus subviolaceus</i> (Müller)	Notable	One	One
<i>Helochaeres lividus</i> (Forster)	Notable	One	One
TRICHOPTERA <i>Ceraclea senilis</i> (Burmeister)	Notable	One	One
DIPTERA <i>Atrichops crassipes</i> (Meigen)	RDB 3	Two	One

For the purposes of this report each list of identified taxa is arranged according to the BMWP scoring system (rather than to taxonomic group) in order to make comparisons with the already available family level information somewhat easier to digest.

# Macroinvertebrate taxon list for Alderbourne above Colne Brook (TQ03908340) - 18/4/95

No Red Data Book or Notable species were found in sample. Of the recorded taxa the following species were occur in <5% of the RIVPACS III reference sites; the water beetle *Hygrotus inaequalis* and the fly *Peripsychoda fusca*.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Habrophlebia fusca</i> (Curtis)	A	<i>Valvata piscinalis</i> (Müller)	C
<i>Ephemerella ignita</i> (Poda)	A	<i>Potamopyrgus jenkinsi</i> (Smith)	B
<i>Athripsodes cinereus</i> (Curtis)	B	<i>Lymnaea peregra</i> (Müller)	A
<i>Mystacides azurea</i> (L.)	B	<i>Lymnaea stagnalis</i> (L.)	A
<i>Goera pilosa</i> (Fabricius)	A	<i>Physa fontinalis</i> (L.)	B
<i>Sericostoma personatum</i> (Spence)	B	<i>Anisus vortex</i> (L.)	B
<i>Calopteryx splendens</i> (Harris)	A	<i>Armiger crista</i> (L.)	B
<i>Caenis luctuosa</i> group	B	<i>Bathymphalus contortus</i> (L.)	B
<i>Polycentropus flavomaculatus</i> (Pictet)	B	<i>Gyraulus albus</i> (Müller)	B
<i>Polycentropus irroratus</i> (Curtis)	A	<i>Planorbis carinatus</i> (Müller)	A
Limnephilidae	A	Sphaeriidae	C
<i>Limnephilus lunatus</i> Curtis	A	<i>Glossiphonia complanata</i> (L.)	A
<i>Agapetus</i> sp.	A	<i>Erpobdella octoculata</i> (L.)	A
<i>Acroloxus lacustris</i> (L.)	A	<i>Asellus aquaticus</i> (L.)	B
<i>Hydroptila</i> sp.	B	Chironomidae	C
<i>Gammarus pulex</i> (L.)	C	Oligochaeta	C
<i>Sigara dorsalis</i> group	A	Hydracarina	B
<i>Haliplus lineatocollis</i> (Marsham)	A	Ostracoda	A
<i>Hygrotus inaequalis</i> (Fabricius)	A	<i>Hemerodromia</i> group	A
<i>Orectochilus villosus</i> (Müller)	B	<i>Peripsychoda fusca</i> (Macquart)	A
<i>Elmis aenea</i> (Müller)	B	<i>Pericoma</i> sp.(trivialis grp/cognata)	A
<i>Hydropsyche pellucidula</i> (Curtis)	A		
<i>Hydropsyche siltalai</i> Döhler	A		
<i>Centroptilum luteolum</i> (Müller)	A		
<i>Sialis lutaria</i> (L.)	A		
<i>Piscicola geometra</i> (L.)	A		

# Macroinvertebrate taxon list for Alderbourne above Colne Brook (TQ03908340) - 7/10/97

No Red Data Book or Notable species were found in sample. Of the recorded taxa only the caddis species *Limnephilus rhombicus* occurs in <5% of the RIVPACS III reference sites.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Athripsodes cinereus</i> (Curtis)	B	<i>Gyraulus albus</i> (Müller)	B
<i>Mystacides azurea</i> (L.)	B	<i>Planorbis carinatus</i> Müller	B
<i>Goera pilosa</i> (Fabricius)	A	Sphaeriidae	C
<i>Sericostoma personatum</i> (Spence)	A	<i>Glossiphonia complanata</i> (L.)	A
<i>Caenis luctuosa</i> group	A	<i>Helobdella stagnalis</i> (L.)	A
<i>Polycentropus flavomaculatus</i> (Pictet)	A	<i>Erpobdella octoculata</i> (L.)	A
Limnephilidae	A	<i>Asellus aquaticus</i> (L.)	B
<i>Limnephilus rhombicus</i> (L.)	A	Chironomidae	C
<i>Hydroptila</i> sp.	A	Oligochaeta	C
<i>Gammarus pulex</i> (L.)	A	Ceratopogonidae	A
<i>Sigara dorsalis</i> group	A	Hydracarina	A
Dytiscidae	A	Ostracoda	A
<i>Oulimnius</i> sp.	A	<i>Chrysops</i> sp.	A
<i>Hydropsyche siltalai</i> Döhler	A		
<i>Pilaria</i> sp.	A		
<i>Centroptilum luteolum</i> (Müller)	A		
<i>Sialis lutaria</i> (L.)	B		
<i>Valvata piscinalis</i> (Müller)	A		
<i>Potamopyrgus jenkinsi</i> (Smith)	A		
<i>Lymnaea peregra</i> (Müller)	B		
<i>Lymnaea palustris</i> (Müller)	A		
<i>Lymnaea stagnalis</i> (L.)	A		
<i>Physa fontinalis</i> (L.)	A		
<i>Anisus vortex</i> (L.)	B		
<i>Armiger crista</i> (L.)	A		
<i>Bathynomphalus contortus</i> (L.)	B		

Macroinvertebrate taxon list for Bulbourne below B4506 Northchurch (SP97400890) - 8/3/95

No Red Data Book or Notable species were found in sample. Of the recorded taxa the following species occur in <5% of the RIVPACS III reference sites; the stonefly *Nemurella picteti* and the leech *Trocheta subviridis*.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Athripsodes cinereus</i> (Curtis)	A	<i>Clinocera</i> group	A
<i>Tinodes waeneri</i> (L.)	A		
<i>Caenis luctuosa</i> group	A		
<i>Nemurella picteti</i> Klapálek	B		
Limnephilidae	B		
<i>Limnephilus lunatus</i> Curtis	B		
<i>Ancylus fluviatilis</i> Müller	A		
<i>Ischnura elegans</i> (Van der Linden)	A		
<i>Crangonyx pseudogracilis</i> Bousfield	A		
<i>Gammarus pulex</i> (L.)	B		
<i>Haliplus</i> sp.	A		
<i>Simulium</i> ( <i>Nevermannia</i> ) <i>angustitarse</i> group	A		
<i>Simulium</i> ( <i>Simulium</i> ) <i>ornatum</i> group	B		
<i>Baetis rhodani</i> (Pictet)	C		
<i>Potamopyrgus jenkinsi</i> (Smith)	B		
<i>Lymnaea peregra</i> (Müller)	B		
<i>Lymnaea palustris</i> (Müller)	A		
Sphaeriidae	A		
<i>Glossiphonia complanata</i> (L.)	A		
<i>Erpobdella octoculata</i> (L.)	A		
<i>Trocheta subviridis</i> Dutrochet	A		
<i>Asellus aquaticus</i> (L.)	B		
Chironomidae	B		
Oligochaeta	B		
Ceratopogonidae	A		
<i>Chelifera</i> group	A		

**Macroinvertebrate taxon list for Bulbourne below B4506 Northchurch (SP97400890) - 27/11/95**

No Red Data Book or Notable species were found in sample. Of the recorded taxa only the leech species *Trocheta subviridis* occurs in <5% of the RIVPACS III reference sites. The flies *Tipula czizeki* and *Psychoda cinerea* were not recorded at any of the RIVPACS III reference sites.

<u>Taxa</u>	<u>Abundance</u>
<i>Tinodes waeneri</i> (L.)	A
<i>Caenis luctuosa</i> group	A
<i>Ischnura elegans</i> (Van der Linden)	A
Dytiscidae	A
<i>Elmis aenea</i> (Müller)	A
<i>Tipula czizeki</i> De Jong	A
<i>Valvata cristata</i> Müller	A
<i>Potamopyrgus jenkinsi</i> (Smith)	D
<i>Lymnaea peregra</i> (Müller)	B
<i>Lymnaea palustris</i> (Müller)	A
Sphaeriidae	B
<i>Trocheta subviridis</i> Dutrochet	A
<i>Asellus aquaticus</i> (L.)	B
Chironomidae	B
Oligochaeta	B
Ceratopogonidae	A
<i>Pericoma trivialis</i> group	A
<i>Psychoda cinerea</i> Banks	A

## Macroinvertebrate taxon list for Bulbourne at Bourne End (TL02800630) - 25/10/95

No Red Data Book or Notable species were found in sample. Of the recorded taxa only the snail *Physa acuta* group occurs in <5% of the RIVPACS III reference sites.

<u>Taxa</u>	<u>Abundance</u>
<i>Tinodes waeneri</i> (L.)	A
<i>Ancylus fluviatilis</i> Müller	B
<i>Acroloxus lacustris</i> (L.)	A
<i>Gammarus pulex</i> (L.)	B
<i>Simulium</i> ( <i>Simulium</i> ) <i>ornatum</i> group	A
<i>Pisicola geometra</i> (L.)	A
<i>Valvata piscinalis</i> (Müller)	B
<i>Bithynia leachii</i> (Sheppard)	B
<i>Bithynia tentaculata</i> (L.)	B
<i>Physa acuta</i> group	A
<i>Physa fontinalis</i> (L.)	A
<i>Anisus vortex</i> (L.)	A
<i>Bathymphalus contortus</i> (L.)	A
<i>Gyraulus albus</i> (Müller)	B
Sphaeriidae	C
<i>Glossiphonia complanata</i> (L.)	A
<i>Helobdella stagnalis</i> (L.)	B
<i>Erpobdella octculata</i> (L.)	B
<i>Asellus aquaticus</i> (L.)	D
Chironomidae	B
Oligochaeta	C
Hydracarina	A
Nematoda	A

# Macroinvertebrate taxon list for Bucknalls Brook above Colne (TQ12309825) - 2/10/96

The Notable water beetle *Haliplus laminatus* was found in the sample. Of the recorded taxa the following occur in <5% of the RIVPACS III reference sites; the damselfly *Coenagrion puella* group, the water beetle *Haliplus immaculatus* and the snail *Physa acuta* group.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Mystacides azurea</i> (L.)	A	Ceratopogonidae	A
<i>Mystacides</i> sp.	A	Ostracoda	A
<i>Ischnura elegans</i> (Van der Linden)	B		
<i>Coenagrion puella</i> group	A		
<i>Gammarus pulex</i> (L.)	B		
<i>Crangonyx pseudogracilis</i> Bousfield	B		
<i>Haliplus</i> sp.	B		
<i>Haliplus laminatus</i> Schaller	A		
<i>Haliplus lineatocollis</i> (Marsham)	A		
<i>Haliplus immaculatus</i> Gerhardt	A		
<i>Elmis aenea</i> (Müller)	A		
<i>Cloeon dipterum</i> (L.)	A		
<i>Sialis lutaria</i> (L.)	A		
<i>Valvata piscinalis</i> (Müller)	C		
<i>Bithynia tentaculata</i> (L.)	A		
<i>Lymnaea peregra</i> (Müller)	A		
<i>Lymnaea stagnalis</i> (L.)	A		
<i>Physa acuta</i> group	A		
<i>Physa fontinalis</i> (L.)	A		
<i>Anisus vortex</i> (L.)	B		
<i>Bathyomphalus contortus</i> (L.)	A		
Sphaeriidae	C		
<i>Erpobdella octculata</i> (L.)	A		
<i>Asellus aquaticus</i> (L.)	C		
Chironomidae	A		
Oligochaeta	B		



# Macroinvertebrate taxon list for River Chess at Bois Mill (SU98409940) -14/11/95

No Red Data Book or Notable species were found in sample. Of the recorded taxa the following species occur in <5% of the RIVPACS III reference sites; the water measurer *Hydrometra stagnorum* and the snail *Physa acuta* group.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Athripsodes aterrimus</i> (Stephens)	B	Ostracoda	B
<i>Mysticides azurea</i> (L.)	C		
<i>Sericostoma personatum</i> (Spence)	A		
<i>Gammarus pulex</i> (L.)	B		
<i>Ischnura elegans</i> (Van der Linden)	A		
<i>Hydropsyche siltalai</i> Döhler	A		
<i>Hydrometra stagnorum</i> (L.)	A		
<i>Sigara dorsalis</i> group	A		
<i>Haliphus</i> sp.	A		
<i>Cloeon dipterum</i> (L.)	A		
<i>Sialis lutaria</i> (L.)	B		
<i>Valvata piscinalis</i> (Müller)	B		
<i>Potamopyrgus jenkinsi</i> (Smith)	C		
<i>Bithynia tentaculata</i> (L.)	A		
<i>Lymnaea peregra</i> (Müller)	A		
<i>Physa acuta</i> group	A		
<i>Anisus vortex</i> (L.)	A		
<i>Gyraulus albus</i> (Müller)	B		
<i>Planorbis carinatus</i> Müller	A		
Sphaeriidae	C		
<i>Glossiphonia complanata</i> (L.)	A		
<i>Erpobdella octoculata</i> (L.)	A		
<i>Asellus aquaticus</i> (L.)	B		
Chironomidae	C		
Oligochaeta	B		
Ceratopogonidae	A		
Hydracarina	A		

# Macroinvertebrate taxon list for River Chess above Chenies STW (TQ01709875) - 14/11/95

No Red Data Book or Notable species were found in sample. Of the recorded taxa only the leech species *Trocheta subviridis* occurs in <5% of the RIVPACS III reference sites.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Heptagenia sulphurea</i> (Müller)	A	<i>Polycelis nigra</i> group	A
<i>Ephemera danica</i> Müller	A	<i>Baetis scambus</i> group	A
<i>Paraleptophlebia</i> sp.	A	<i>Baetis vernus</i> Curtis	A
<i>Athripsodes albifrons</i> (L.)	A	<i>Cloeon dipterum</i> (L.)	A
<i>Athripsodes aterrimus</i> (Stephens)	A	<i>Piscicola geometra</i> (L.)	A
<i>Mystacides azurea</i> (L.)	A	<i>Valvata piscinalis</i> (Müller)	A
<i>Goera pilosa</i> (Fabricius)	A	<i>Physa fontinalis</i> (L.)	A
<i>Sericostoma personatum</i> (Spence)	A	<i>Bithynia tentaculata</i> (L.)	A
<i>Lepidostoma hirtum</i> (Fabricius)	B	<i>Lymnaea stagnalis</i> (L.)	A
<i>Calopteryx splendens</i> (Harris)	A	<i>Lymnaea peregra</i> (Müller)	A
<i>Caenis luctuosa</i> group	C	<i>Anisus vortex</i> (L.)	B
<i>Agapetus</i> sp.	A	<i>Planorbis carinatus</i> Müller	A
<i>Rhyacophila dorsalis</i> (Curtis)	A	Sphaeriidae	C
Limnephilidae	A	<i>Glossiphonia complanata</i> (L.)	B
<i>Potamophylax</i> group	A	<i>Helobdella stagnalis</i> (L.)	A
<i>Ancylus fluviatilis</i> Müller	A	<i>Theromyzon tessulatum</i> (Müller)	A
<i>Gammarus pulex</i> (L.)	D	<i>Erpobdella octoculata</i> (L.)	A
<i>Sigara dorsalis</i> group	B	<i>Trocheta subviridis</i> Dutrochet	A
Dytiscidae	A	<i>Asellus aquaticus</i> (L.)	B
<i>Elmis aenea</i> (Müller)	C	Chironomidae	B
<i>Limnius volckmari</i> (Panzer)	A	Oligochaeta	B
<i>Oulimnius</i> sp.	A	Hydracarina	A
<i>Hydropsyche pellucidula</i> (Curtis)	B	Ceratopogonidae	A
<i>Hydropsyche siltalai</i> Döhler	B	Ostracoda	A
<i>Dicranota</i> sp.	A	<i>Pericoma trivialis</i> group	A
<i>Simulium</i> ( <i>Simulium</i> ) <i>ornatum</i> group	A		

**Macroinvertebrate taxon list for River Chess above Chesham STW (SU98209960) - 14/11/95**

No Red Data Book or Notable species were found in sample. Of the recorded taxa only the leech species *Trocheta subviridis* occurs in <5% of the RIVPACS III reference sites.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Ephemerella ignita</i> (Poda)	A	<i>Potamopyrgus jenkinsi</i> (Smith)	C
<i>Ephemera danica</i> Müller	A	<i>Lymnaea palustris</i> (Müller)	A
<i>Athripsodes cinereus</i> (Curtis)	A	<i>Lymnaea peregra</i> (Müller)	C
<i>Mystacides azurea</i> (L.)	B	<i>Anisus vortex</i> (L.)	A
<i>Silo nigricornis</i> (Pictet)	B	Sphaeriidae	C
<i>Sericostoma personatum</i> (Spence)	A	<i>Glossiphonia complanata</i> (L.)	A
<i>Agapetus</i> sp.	B	<i>Trocheta subviridis</i> Dutrochet	A
<i>Rhyacophila dorsalis</i> (Curtis)	A	<i>Asellus aquaticus</i> (L.)	A
Limnephilidae	A	Chironomidae	C
<i>Potamophylax</i> group	A	Oligochaeta	C
<i>Ancylus fluviatilis</i> Müller	A	Hydracarina	A
<i>Hydroptila</i> sp.	A	Ceratopogonidae	A
<i>Oxyethira</i> sp.	A	<i>Limnophora</i> sp	A
<i>Gammarus pulex</i> (L.)	C	<i>Pericoma trivialis</i> group	A
Dytiscidae	B	<i>Oxycera formosa</i> Meigen	A
<i>Haliplus</i> sp.	A		
<i>Elmis aenea</i> (Müller)	B		
<i>Hydropsyche pellucidula</i> (Curtis)	A		
<i>Hydropsyche siltalai</i> Döhler	C		
<i>Dicranota</i> sp.	B		
<i>Pilaria</i> sp.	A		
<i>Simulium</i> ( <i>Simulium</i> ) <i>ornatum</i> group	A		
<i>Baetis rhodani</i> (Pictet)	B		
<i>Piscicola geometra</i> (L.)	A		
<i>Valvata piscinalis</i> (Müller)	B		
<i>Physa fontinalis</i> (L.)	A		

# Macroinvertebrate taxon list for River Chess below Latimer Bridge (TQ00509860) - 11/4/95

No Red Data Book or Notable species were found in sample. Of the recorded taxa the following species occur in <5% of the RIVPACS III reference sites; the caddis *Limnephilus rhombicus* and the water beetle *Haliplus immaculatus*.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Ephemerella ignita</i> (Poda)	B	<i>Simulium</i> ( <i>Simulium</i> ) <i>ornatum</i> group	B
<i>Ephemera danica</i> Müller	A	<i>Polycelis nigra</i> group	B
<i>Athripsodes cinereus</i> (Curtis)	B	<i>Dendrocoelum lacteum</i> (Müller)	A
<i>Athripsodes albifrons</i> (L.)	B	<i>Baetis rhodani</i> (Pictet)	C
<i>Athripsodes aterrimus</i> (Stephens)	A	<i>Cloeon dipterum</i> (L.)	B
<i>Mystacides azurea</i> (L.)	A	<i>Sialis lutaria</i> (L.)	A
<i>Sericostoma personatum</i> (Spence)	A	<i>Piscicola geometra</i> (L.)	A
<i>Lepidostoma hirtum</i> (Fabricius)	A	<i>Valvata piscinalis</i> (Müller)	A
<i>Caenis luctuosa</i> group	B	<i>Potamopyrgus jenkinsi</i> (Smith)	A
<i>Agapetus</i> sp.	C	<i>Bithynia tentaculata</i> (L.)	B
<i>Rhyacophila dorsalis</i> (Curtis)	A	<i>Lymnaea palustris</i> (Müller)	A
<i>Drusus annulatus</i> (Stephens)	A	<i>Lymnaea peregra</i> (Müller)	A
<i>Halesus</i> sp.	A	<i>Anisus vortex</i> (L.)	B
Limnephilidae	A	<i>Bathymphalus contortus</i> (L.)	A
<i>Potamophylax</i> group	A	<i>Gyraulus albus</i> (Müller)	B
<i>Limnephilus lunatus</i> Curtis	A	<i>Planorbis carinatus</i> Müller	A
<i>Limnephilus rhombicus</i> (L.)	A	Sphaeriidae	C
<i>Ancylus fluviatilis</i> Müller	B	<i>Glossiphonia complanata</i> (L.)	A
<i>Hydroptila</i> sp.	B	<i>Helobdella stagnalis</i> (L.)	A
<i>Gammarus pulex</i> (L.)	C	<i>Erpobdella octoculata</i> (L.)	B
<i>Crangonyx pseudogracilis</i> Bousfield	A	<i>Asellus aquaticus</i> (L.)	C
<i>Sigara dorsalis</i> group	A	Chironomidae	C
<i>Haliplus immaculatus</i> Gerhardt	A	Oligochaeta	C
<i>Haliplus</i> sp.	A	Hydracarina	A
<i>Elmis aenea</i> (Müller)	C	Ceratopogonidae	A
<i>Hydropsyche pellucidula</i> (Curtis)	A	Ostracoda	A
<i>Hydropsyche siltalai</i> Döhler	C		

Macroinvertebrate taxon list for River Chess below Latimer Bridge (TQ00509860) - 14/11/95

No Red Data Book or Notable species were found in sample. None of the recorded taxa occur in <5% of the RIVPACS III reference sites.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Ephemerella ignita</i> (Poda)	A	<i>Lymnaea stagnalis</i> (L.)	A
<i>Ephemera danica</i> Müller	A	<i>Physa fontinalis</i> (L.)	A
<i>Athripsodes cinereus</i> (Curtis)	B	<i>Anisus vortex</i> (L.)	A
<i>Athripsodes aterrimus</i> (Stephens)	A	<i>Gyraulus albus</i> (Müller)	A
<i>Goera pilosa</i> (Fabricius)	A	<i>Planorbis carinatus</i> Müller	A
<i>Sericostoma personatum</i> (Spence)	A	Sphaeriidae	B
<i>Caenis horaria</i> (L.)	B	<i>Glossiphonia complanata</i> (L.)	A
<i>Caenis luctuosa</i> group	C	<i>Helobdella stagnalis</i> (L.)	A
<i>Agapetus</i> sp.	A	<i>Theromyzon tessulatum</i> (Müller)	A
<i>Hydroptila</i> sp.	A	<i>Erpobdella octoculata</i> (L.)	A
<i>Gammarus pulex</i> (L.)	C	<i>Asellus aquaticus</i> (L.)	C
<i>Sigara dorsalis</i> group	B	Chironomidae	B
<i>Haliphus</i> sp.	A	Oligochaeta	C
<i>Potamonectes depressus</i> (Fabricius)	A	Ceratopogonidae	A
<i>Elmis aenea</i> (Müller)	B	Ostracoda	A
<i>Hydropsyche siltalai</i> Döhler	B	<i>Eurycercus lamellatus</i> (Müller)	A
<i>Dicranota</i> sp.	A	<i>Oxycera formosa</i> Meigen	A
<i>Simulium</i> ( <i>Wilhelmia</i> ) sp.	A	<i>Limnophora</i> sp.	A
<i>Simulium</i> ( <i>Simulium</i> ) <i>ornatum</i> group	A		
<i>Polycelis nigra</i> group	A		
<i>Dendrocoelum lacteum</i> (Müller)	A		
<i>Baetis rhodani</i> (Pictet)	A		
<i>Baetis scambus</i> group	A		
<i>Cloeon dipterum</i> (L.)	A		
<i>Sialis lutaria</i> (L.)	A		
<i>Bithynia tentaculata</i> (L.)	B		
<i>Lymnaea peregra</i> (Müller)	A		

# Macroinvertebrate taxon list for River Chess at Valley Farm Ford - 5/10/94

No Red Data Book or Notable species were found in sample. None of the recorded taxa occur in <5% of the RIVPACS III reference sites.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Ephemerella ignita</i> (Poda)	A	<i>Baetis scambus</i> group	A
<i>Ephemera danica</i> Müller	A	<i>Piscicola geometra</i> (L.)	A
<i>Athripsodes cinereus</i> (Curtis)	A	<i>Valvata piscinalis</i> (Müller)	B
<i>Athripsodes aterrimus</i> (Stephens)	A	<i>Potamopyrgus jenkinsi</i> (Smith)	B
<i>Athripsodes albifrons/bilineatus</i>	A	<i>Lymnaea palustris</i> (Müller)	A
<i>Mystacides azurea</i> (L.)	A	<i>Lymnaea peregra</i> (Müller)	B
<i>Goera pilosa</i> (Fabricius)	A	<i>Lymnaea stagnalis</i> (L.)	A
<i>Sericostoma personatum</i> (Spence)	A	<i>Physa fontinalis</i> (L.)	A
<i>Lepidostoma hirtum</i> (Fabricius)	A	<i>Anisus vortex</i> (L.)	B
<i>Odontocerum albicorne</i> (Scopoli)	A	<i>Gyraulus albus</i> (Müller)	A
<i>Calopteryx splendens</i> (Harris)	A	<i>Planorbis carinatus</i> Müller	A
<i>Caenis luctuosa</i> group	C	Sphaeriidae	B
<i>Agapetus</i> sp.	B	<i>Glossiphonia complanata</i> (L.)	A
<i>Rhyacophila dorsalis</i> (Curtis)	B	<i>Theromyzon tessulatum</i> (Müller)	A
<i>Anyclus fluviatilis</i> Müller	B	<i>Erpobdella octoculata</i> (L.)	A
<i>Gammarus pulex</i> (L.)	D	<i>Asellus aquaticus</i> (L.)	A
<i>Sigara dorsalis</i> group	A	Chironomidae	C
<i>Haliplus</i> sp.	A	Oligochaeta	B
<i>Elmis aenea</i> (Müller)	B	Ostracoda	A
<i>Hydropsyche angustipennis</i> (Curtis)	B	Hydracarina	B
<i>Hydropsyche pellucidula</i> (Curtis)	B	<i>Limnophora</i> sp.	A
<i>Hydropsyche siltalai</i> Döhler	C		
<i>Simulium (Eusimulium) aureum</i> group	A		
<i>Simulium (Nevermannia) angustitarse</i> group	A		
<i>Simulium (Simulium) ornatum</i> group	C		
<i>Polycelis nigra</i> group	A		
<i>Baetis rhodani</i> (Pictet)	B		

## Macroinvertebrate taxon list for River Chess above Colne (TQ06709460) - 23/11/95

No Red Data Book or Notable species were found in sample. Of the recorded taxa only the caddis species *Limnephilus rhombicus* occurs in <5% of the RIVPACS III reference sites.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abund.</u>
<i>Heptagenia sulphurea</i> (Müller)	B	<i>Simulium (Simulium) ornatum</i> grp	B
<i>Paraleptophlebia submarginata</i> (Stephens)	C	<i>Simulium (Wilhelmia)</i> sp.	A
<i>Ephemera danica</i> Müller	B	<i>Polycelis nigra</i> group	A
<i>Athripsodes cinereus</i> (Curtis)	B	<i>Dugesia tigrina</i> (Girard)	A
<i>Mystacides nigra/longicornis</i>	A	<i>Dendrocoelum lacteum</i> (Müller)	A
<i>Mystacides azurea</i> (L.)	A	<i>Baetis rhodani</i> (Pictet)	B
<i>Silo nigricornis</i> (Pictet)	A	<i>Centroptilum luteolum</i> (Müller)	A
<i>Sericostoma personatum</i> (Spence)	B	<i>Sialis lutaria</i> (L.)	A
<i>Calopteryx splendens</i> (Harris)	B	<i>Piscicola geometra</i> (L.)	A
<i>Caenis luctuosa</i> group	C	<i>Bithynia tentaculata</i> (L.)	A
<i>Agapetus</i> sp.	C	<i>Lymnaea palustris</i> (Müller)	A
<i>Rhyacophila dorsalis</i> (Curtis)	A	<i>Lymnaea stagnalis</i> (L.)	A
<i>Polycentropus flavomaculatus</i> (Pictet)	B	<i>Planorbis carinatus</i> Müller	A
<i>Polycentropus irroratus</i> (Curtis)	B	Sphaeriidae	B
<i>Limnephilus rhombicus</i> (L.)	A	<i>Glossiphonia complanata</i> (L.)	A
Limnephilidae	B	<i>Helobdella stagnalis</i> (L.)	A
<i>Potamophylux</i> group	A	<i>Erpobdella octoculata</i> (L.)	A
<i>Anyclus fluviatilis</i> Müller	A	<i>Asellus aquaticus</i> (L.)	B
<i>Gammarus pulex</i> (L.)	D	Chironomidae	C
Dytiscidae	A	Oligochaeta	C
<i>Orectochilus villosus</i> (Müller)	B	<i>Dixa nebulosa</i> Meigen	A
<i>Elmis aenea</i> (Müller)	B	<i>Limnophora</i> sp.	A
<i>Limnius volckmari</i> (Panzer)	C	<i>Hemerodromia</i> group	A
<i>Hydropsyche pellucidula</i> (Curtis)	B		
<i>Hydropsyche siltalai</i> Döhler	A		
<i>Dicranota</i> sp.	A		
<i>Simulium (Nevermannia) angustitarse</i> group	A		

**Macroinvertebrate taxon list for Chalk Stream at Blackwell Hall Lane (SU98009950) - 21/9/93**

No Red Data Book or Notable species were found in sample. Of the recorded taxa the following species occur in <5% of the RIVPACS III reference sites; the stonefly *Nemurella picteti*, the caddis *Limnephilus extricatus* and the corixid *Hesperocorixa sahlbergi*.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Ephemera ignita</i> (Poda)	A	<i>Bathymphalus contortus</i> (L.)	A
<i>Mystacides</i> sp.	A	<i>Gyraulus albus</i> (Müller)	A
<i>Mystacides azurea</i> (L.)	A	Sphaeriidae	B
<i>Sericostoma personatum</i> (Spence)	A	<i>Glossiphonia complanata</i> (L.)	A
<i>Nemurella picteti</i> Klapálek	A	<i>Helobdella stagnalis</i> (L.)	A
<i>Agapetus</i> sp.	B	<i>Asellus aquaticus</i> (L.)	B
<i>Rhyacophila dorsalis</i> (Curtis)	A	Chironomidae	B
<i>Limnephilus extricatus</i> McLachan	A	Oligochaeta	B
Limnephilidae	A	Hydracarina	A
<i>Potamophylax</i> group	A	Ostracoda	A
<i>Anyclyus fluviatilis</i> Müller	A	<i>Dixa nebulosa</i> Meigen	A
<i>Gammarus pulex</i> (L.)	C	<i>Clinocera</i> group	A
<i>Hesperocorixa sahlbergi</i> (Fieber)	A		
Dytiscidae	A		
<i>Elmis aenea</i> (Müller)	B		
<i>Hydropsyche siltalai</i> Döhler	B		
<i>Dicranota</i> sp.	A		
<i>Simulium</i> ( <i>Simulium</i> ) <i>ornatum</i> group	C		
<i>Polycelis nigra</i> group	A		
<i>Baetis rhodani</i> (Pictet)	A		
<i>Baetis vernus</i> Curtis	A		
<i>Piscicola geometra</i> (L.)	A		
<i>Valvata piscinalis</i> (Müller)	A		
<i>Potamopyrgus jenkinsi</i> (Smith)	A		
<i>Lymnaea peregra</i> (Müller)	A		
<i>Anisus vortex</i> (L.)	B		



## Macroinvertebrate taxon list for River Colne at London Colney (TL18200360) - 3/4/95

No Red Data Book or Notable species were found in sample. Of the recorded taxa the following species occur in <5% of the RIVPACS III reference sites; the fly *Tipula paludosa*, the Great Ramshorn snail *Planorbis corneus* and the Flat Ramshorn snail *Hippeutis complanatus*.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Athripsodes aterrimus</i> (Stephens)	A	<i>Hippeutis complanatus</i> (L.)	A
<i>Caenis luctuosa</i> group	B	Sphaeriidae	C
<i>Limnephilus lunatus</i> Curtis	A	<i>Glossiphonia complanata</i> (L.)	A
<i>Acroloxus lacustris</i> (L.)	A	<i>Helobdella stagnalis</i> (L.)	A
<i>Gammarus pulex</i> (L.)	B	<i>Erpobdella octoculata</i> (L.)	A
<i>Crangonyx pseudogracilis</i> Bousfield	A	<i>Asellus aquaticus</i> (L.)	B
<i>Ischnura elegans</i> (Van der Linden)	B	Chironomidae	C
<i>Haliphus lineatocollis</i> (Marsham)	A	Oligochaeta	C
<i>Potamonectes depressus</i> (Fabricius)	A	Ceratopogonidae	A
<i>Oulimnius tuberculatus</i> (Müller)	A	<i>Chrysops</i> sp.	A
<i>Hydropsyche angustipennis</i> Curtis	B		
<i>Tipula paludosa</i> Meigen	A		
<i>Polycelis nigra</i> group	A		
<i>Dendrocoelum lacteum</i> (Müller)	A		
<i>Baetis rhodani</i> (Pictet)	A		
<i>Valvata piscinalis</i> (Müller)	B		
<i>Potamopyrgus jenkinsi</i> (Smith)	B		
<i>Bithynia leachii</i> (Sheppard)	B		
<i>Bithynia tentaculata</i> (L.)	B		
<i>Lymnaea stagnalis</i> (L.)	A		
<i>Physa fontinalis</i> (L.)	A		
<i>Anisus vortex</i> (L.)	B		
<i>Bathyomphalus contortus</i> (L.)	B		
<i>Gyraulus albus</i> (Müller)	B		
<i>Planorbis carinatus</i> Müller	A		
<i>Planorbis corneus</i> (L.)	A		

# Macroinvertebrate taxon list for River Colne below Ver (TL13800120) - 2/10/96

No Red Data Book or Notable species were found in sample. Of the recorded taxa the following occur in <5% of the RIVPACS III reference sites; the dragonfly *Aeshna* sp. and the snail *Physa acuta* group.

<u>Taxa</u>	<u>Abund.</u>	<u>Taxa</u>	<u>Abund.</u>
<i>Athripsodes cinereus</i> (Curtis)	B	<i>Dendrocoelum lacteum</i> (Müller)	A
<i>Goera pilosa</i> (Fabricius)	A	<i>Baetis scambus</i> group	B
<i>Leuctra fusca</i> (L.)	A	<i>Baetis vernus</i> Curtis	A
<i>Calopteryx splendens</i> (Harris)	B	<i>Centroptilum luteolum</i> (Müller)	A
<i>Aeshna</i> sp.	A	<i>Piscicola geometra</i> (L.)	A
<i>Caenis luctuosa</i> group	B	<i>Potamopyrgus jenkinsi</i> (Smith)	B
<i>Rhyacophila dorsalis</i> (Curtis)	B	<i>Bithynia leachii</i> (Sheppard)	A
<i>Anyclus fluviatilis</i> Müller	B	<i>Lymnaea peregra</i> (Müller)	A
<i>Hydroptila</i> sp.	A	<i>Lymnaea stagnalis</i> (L.)	A
<i>Gammarus pulex</i> (L.)	D	<i>Physa acuta</i> group	A
<i>Ischnura elegans</i> (Van der Linden)	B	<i>Anisus vortex</i> (L.)	B
<i>Haliplus</i> sp.	A	<i>Armiger crista</i> (L.)	A
Dytiscidae	A	<i>Gyraulus albus</i> (Müller)	A
<i>Elmis aenea</i> (Müller)	C	Sphaeriidae	B
<i>Oulimnius tuberculatus</i> (Müller)	B	<i>Glossiphonia complanata</i> (L.)	A
<i>Hydropsyche angustipennis</i> Curtis	B	<i>Theromyzon tessulatum</i> (Müller)	A
<i>Hydropsyche pellucidula</i> (Curtis)	C	<i>Erpobdella octoculata</i> (L.)	A
<i>Hydropsyche siltalai</i> Döhler	C	<i>Asellus aquaticus</i> (L.)	B
<i>Simulium</i> ( <i>Eusimulium</i> ) <i>aureum</i> group	A	Chironomidae	C
<i>Simulium</i> ( <i>Nevermannia</i> ) <i>angustitarse</i> group	A	Oligochaeta	B
<i>Simulium</i> ( <i>Boophthora</i> ) <i>erythrocephalum</i> (de Geer)	B	Ceratopogonidae	A
<i>Simulium</i> ( <i>Simulium</i> ) <i>ornatum</i> group	A	Hydracarina	A
<i>Simulium</i> ( <i>Wilhelmia</i> ) sp.	B	<i>Limnophora</i> sp.	A
Simuliidae	A	Nematoda	A
<i>Polycelis nigra</i> group	A	Chordodidae	A
<i>Dugesia polychroa</i> group	A		

**Macroinvertebrate taxon list for River Colne at Bushey Mill Lane (TQ12109810) - 11/9/95**

The Notable water beetle *Haliphus laminatus* was found in sample. Of the other recorded taxa only the Ear Snail *Lymnaea auricularia* occurs in <5% of the RIVPACS III reference sites.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Athripsodes cinereus</i> (Curtis)	A	Sphaeriidae	C
<i>Mystacides azurea</i> (L.)	B	<i>Helobdella stagnalis</i> (L.)	A
<i>Calopteryx splendens</i> (Harris)	A	<i>Erpobdella octoculata</i> (L.)	A
<i>Caenis luctuosa</i> group	B	<i>Asellus aquaticus</i> (L.)	B
<i>Rhyacophila dorsalis</i> (Curtis)	A	Chironomidae	B
<i>Gammarus pulex</i> (L.)	B	Oligochaeta	C
<i>Ischnura elegans</i> (Van der Linden)	B		
<i>Gerris</i> sp.	A		
Corixidae	A		
<i>Sigara dorsalis</i> group	A		
<i>Haliphus laminatus</i> Schaller	A		
<i>Haliphus fluviatilis</i> Aubé	A		
<i>Elmis aenea</i> (Müller)	A		
<i>Limnius volckmari</i> (Panzer)	A		
<i>Simulium</i> ( <i>Boophthora</i> ) <i>erythrocephalum</i> (de Geer)	A		
<i>Centropilum luteolum</i> (Müller)	A		
<i>Cloeon dipterum</i> (L.)	A		
<i>Sialis lutaria</i> (L.)	B		
<i>Piscicola geometra</i> (L.)	A		
<i>Valvata piscinalis</i> (Müller)	B		
<i>Potamopyrgus jenkinsi</i> (Smith)	B		
<i>Lymnaea auricularia</i> (L.)	A		
<i>Lymnaea stagnalis</i> (L.)	A		
<i>Anisus vortex</i> (L.)	B		
<i>Armiger crista</i> (L.)	A		
<i>Gyraulus albus</i> (Müller)	A		
<i>Planorbis carinatus</i> Müller	A		

# Macroinvertebrate taxon list for River Colne at Tolpitts Lane (TQ07709410) - 28/11/94

No Red Data Book or Notable species were found in sample. Of the recorded taxa the following occur in <5% of the RIVPACS III reference sites; the caddis species *Cyrnus flavidus*, *Glyptotendipes pellucidus* and *Limnephilus rhombicus*, the Red-eyed damselfly *Erythromma najas*, the greater water boatmen *Notonecta glauca* and *N. maculata*, the water scorpion *Nepa cinerea*, the water beetle *Laccophilus hyalinus*, and the dipterans *Helius* sp., *Pseudolimnophila* sp., *Peripsychoda fusca* and *Dixella aestivalis*.

Taxa	Abundance	Taxa	Abundance
<i>Athripsodes aterrimus</i> (Stephens)	A	<i>Cloeon dipterum</i> (L.)	B
<i>Mystacides azurea</i> (L.)	A	<i>Sialis lutaria</i> (L.)	A
<i>Calopteryx splendens</i> (Harris)	A	<i>Potamopyrgus jenkinsi</i> (Smith)	B
<i>Lype</i> sp.	A	<i>Bithynia leachii</i> (Sheppard)	B
<i>Caenis luctuosa</i> group	A	<i>Bithynia tentaculata</i> (L.)	B
<i>Cyrnus flavidus</i> McLachan	A	<i>Physa fontinalis</i> (L.)	A
<i>Glyptotendipes pellucidus</i> (Retzius)	B	<i>Lymnaea stagnalis</i> (L.)	A
<i>Halesus</i> sp.	B	<i>Anisus vortex</i> (L.)	B
<i>Limnephilus rhombicus</i> (L.)	B	<i>Armiger crista</i> (L.)	A
Limnephilidae	B	<i>Bathymphalus contortus</i> (L.)	B
<i>Acroloxus lacustris</i> (L.)	A	<i>Planorbis carinatus</i> Müller	A
<i>Crangonyx pseudogracilis</i> Bousfield	C	Sphaeriidae	B
<i>Erythromma najas</i> (Hansemann)	A	<i>Glossiphonia complanata</i> (L.)	A
<i>Ischnura elegans</i> (Van der Linden)	B	<i>Erpobdella octoculata</i> (L.)	A
<i>Notonecta glauca</i> L.	A	<i>Asellus aquaticus</i> (L.)	C
<i>Notonecta maculata</i> Fabricius	A	Chironomidae	C
<i>Sigara dorsalis</i> group	A	Oligochaeta	B
<i>Nepa cinerea</i> L.	A	Ceratopogonidae	A
<i>Haliphus fluviatilis</i> Aubé	A	Ostracoda	A
Dytiscidae	A	<i>Simocephalus</i> sp.	B
<i>Laccophilus hyalinus</i> (Degeer)	A	<i>Eurycercus lamellatus</i> (Müller)	B
<i>Hydropsyche pellucidula</i> (Curtis)	A	<i>Pericoma trivialis</i> group	A
<i>Helius</i> sp.	A	<i>Peripsychoda fusca</i> (Macquart)	A
<i>Pseudolimnophila</i> sp.	A	<i>Dixella aestivalis</i> Meigen	A
<i>Simulium</i> ( <i>Boophthora</i> ) <i>erythrocephalum</i> (de Geer)	A	<i>Hemerodromia</i> group	A
<i>Polycelis nigra</i> group	A		

# Macroinvertebrate taxon list for River Colne at Tolpitts Lane (TQ07709410) - 16/3/95

The Notable water beetle *Haliplus laminatus* and the Notable whirligig beetle *Gyrinus urinator* were found in the sample. Of the other recorded taxa the following occur in <5% of the RIVPACS III reference sites; the mayfly *Ephemera vulgata*, the dragonfly *Aeshna* sp., the caddis *Glyptotendipes pallidus*, *Limnephilus flavicornis* and *L. rhombicus*, the damselfly *Coenagrion puella* group, the corixid *Hesperocorixa sahlbergi*, the water beetle *Hygrotus versicolor* and the Button Ramshorn snail *Anisus leucostoma*.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abund.</u>
<i>Ephemera vulgata</i> L.	A	<i>Hygrotus versicolor</i> (Schaller)	A
<i>Molanna angustata</i> Curtis	A	<i>Gyrinus urinator</i> Illiger	A
<i>Athripsodes aterrimus</i> (Stephens)	A	<i>Hydropsyche contubernalis</i> McLachan	A
<i>Mystacides azurea</i> (L.)	A	<i>Hydropsyche pellucidula</i> (Curtis)	A
<i>Calopteryx splendens</i> (Harris)	A	<i>Cloeon dipterum</i> (L.)	A
<i>Aeshna</i> sp.	A	<i>Sialis lutaria</i> (L.)	B
<i>Tinodes waeneri</i> (L.)	B	<i>Potamopyrgus jenkinsi</i> (Smith)	A
<i>Lype</i> sp.	A	<i>Bithynia leachii</i> (Sheppard)	B
<i>Caenis luctuosa</i> group	C	<i>Bithynia tentaculata</i> (L.)	B
<i>Cyrtus trimaculatus</i> (Curtis)	A	<i>Physa fontinalis</i> (L.)	B
<i>Glyptotendipes pallidus</i> (Retzius)	A	<i>Lymnaea stagnalis</i> (L.)	A
<i>Halesus</i> sp.	A	<i>Anisus leucostoma</i> (Millet)	A
<i>Limnephilus lunatus</i> Curtis	A	<i>Anisus vortex</i> (L.)	A
<i>Limnephilus flavicornis</i> (Fabricius)	A	<i>Planorbis carinatus</i> Müller	A
<i>Limnephilus rhombicus</i> (L.)	A	Sphaeriidae	C
Limnephilidae	A	<i>Helobdella stagnalis</i> (L.)	A
<i>Acroloxus lacustris</i> (L.)	A	<i>Erpobdella octoculata</i> (L.)	A
<i>Crangonyx pseudogracilis</i> Bousfield	B	<i>Asellus aquaticus</i> (L.)	C
<i>Coenagrion puella</i> group	A	Chironomidae	C
<i>Ischnura elegans</i> (Van der Linden)	B	Oligochaeta	C
<i>Hesperocorixa sahlbergi</i> (Fieber)	A		
<i>Sigara dorsalis</i> group	A		
<i>Haliplus laminatus</i> Schaller	A		
Dytiscidae	A		

## Macroinvertebrate taxon list for River Colne at Tolpitts Lane (TQ07709410) - 23/11/95

The Notable water beetle *Haliplus laminatus* was found in sample. Of the other recorded taxa the following occur in <5% of the RIVPACS III reference sites: the caddis *Cyrnus flavidus*, *Glyptotendipes pellucidus* and *Limnephilus rhombicus*, the Red-eyed damselfly *Erythromma najas*, the water beetles *Haliplus immaculatus*, *Laccophilus hyalinus* and *Helophorus flavipes/obscurus* and the dipteran *Psychoda severini*.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Phryganea</i> sp.	A	<i>Helophorus flavipes/obscurus</i>	A
<i>Molanna angustata</i> Curtis	A	<i>Cloeon dipterum</i> (L.)	B
<i>Athripsodes aterrimus</i> (Stephens)	A	<i>Sialis lutaria</i> (L.)	B
<i>Mystacides azurea</i> (L.)	B	<i>Piscicola geometra</i> (L.)	A
<i>Mystacides nigra</i> (L.)	A	<i>Potamopyrgus jenkinsi</i> (Smith)	A
<i>Calopteryx splendens</i> (Harris)	A	<i>Bithynia leachii</i> (Sheppard)	B
<i>Tinodes waeneri</i> (L.)	B	<i>Bithynia tentaculata</i> (L.)	B
<i>Lype</i> sp.	A	<i>Lymnaea peregra</i> (Müller)	A
<i>Caenis luctuosa</i> group	C	<i>Lymnaea stagnalis</i> (L.)	B
<i>Cyrnus trimaculatus</i> (Curtis)	A	<i>Physa fontinalis</i> (L.)	A
<i>Cyrnus flavidus</i> McLachan	A	<i>Gyraulus albus</i> (Müller)	A
<i>Glyptotendipes pellucidus</i> (Retzius)	A	<i>Planorbis carinatus</i> Müller	A
<i>Limnephilus rhombicus</i> (L.)	A	Sphaeriidae	B
Limnephilidae	A	<i>Asellus aquaticus</i> (L.)	C
<i>Theodoxus fluviatilis</i> (L.)	A	Chironomidae	C
<i>Acroloxus lacustris</i> (L.)	A	Oligochaeta	B
<i>Anyclys fluviatilis</i> Müller	A	Ostracoda	A
<i>Crangonyx pseudogracilis</i> Bousfield	B	Nematoda	A
<i>Erythromma najas</i> (Hansemann)	A	Copepoda	A
<i>Ischnura elegans</i> (Van der Linden)	B	<i>Simocephalus</i> sp.	B
Corixidae	A	<i>Eurycercus lamellatus</i> (Müller)	C
<i>Haliplus immaculatus</i> Gerhardt	A	<i>Psychoda severini</i> Tonnoir	A
<i>Haliplus laminatus</i> Schaller	A		
Dytiscidae	A		
<i>Laccophilus hyalinus</i> (L.)	A		

# Macroinvertebrate taxon list for River Colne at Halfway House (TQ05309420) - 16/3/95

No Red Data Book or Notable species were found in sample. Of the recorded taxa the following occur in <5% of the RIVPACS III reference sites; the caddis *Neureclipsis bimaculata*, the bivalve mollusc *Anodonta* group and the crustacean *Corophium curvispinum*.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Aphelocheirus aestivalis</i> (Fabricius)	B	<i>Valvata piscinalis</i> (Müller)	A
<i>Mystacides azurea</i> (L.)	A	<i>Potamopyrgus jenkinsi</i> (Smith)	A
<i>Goera pilosa</i> (Fabricius)	A	<i>Bithynia tentaculata</i> (L.)	B
<i>Calopteryx splendens</i> (Harris)	A	<i>Lymnaea peregra</i> (Müller)	A
<i>Caenis luctuosa</i> group	A	Sphaeriidae	C
<i>Neureclipsis bimaculata</i> L.	A	<i>Glossiphonia complanata</i> (L.)	A
<i>Polycentropus</i> sp.	A	<i>Helobdella stagnalis</i> (L.)	A
<i>Halesus</i> sp.	A	<i>Erpobdella octoculata</i> (L.)	A
<i>Limnephilus lunatus</i> Curtis	A	<i>Asellus aquaticus</i> (L.)	B
<i>Potamophylax</i> group	A	Chironomidae	C
<i>Theodoxus fluviatilis</i> (L.)	B	Oligochaeta	C
<i>Anodonta</i> group	A	<i>Limnophora</i> sp.	A
<i>Corophium curvispinum</i> Sars	B		
<i>Crangonyx pseudogracilis</i> Bousfield	A		
<i>Gammarus pulex</i> (L.)	C		
<i>Ischnura elegans</i> (Van der Linden)	A		
<i>Elmis aenea</i> (Müller)	A		
<i>Limnius volckmari</i> (Panzer)	A		
<i>Hydropsyche contubernalis</i> McLachan	B		
<i>Hydropsyche pellucidula</i> (Curtis)	A		
<i>Hydropsyche siltalai</i> Döhler	B		
<i>Simulium</i> ( <i>Simulium</i> ) <i>ornatum</i> group	A		
<i>Dugesia polychroa</i> group	A		
<i>Dugesia tigrina</i> (Girard)	A		
<i>Baetis rhodani</i> (Pictet)	A		
<i>Sialis lutaria</i> (L.)	A		

# Macroinvertebrate taxon list for River Colne at Halfway House (TQ05309420) - 23/11/95

No Red Data Book or Notable species were found in sample. Of the recorded taxa the following occur in <5% of the RIVPACS III reference sites; the caddis *Neureclipsis bimaculata*, the crustacean *Corophium curvispinum*, the greater water boatman *Notonecta glauca*, the water measurer *Hydrometra stagnorum* and the Ear Snail *Lymnaea auricularia*.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Ephemera danica</i> Müller	A	<i>Simulium</i> sp.	A
<i>Aphelocheirus aestivalis</i> (Fabricius)	B	<i>Cloeon dipterum</i> (L.)	A
<i>Molanna angustata</i> Curtis	A	<i>Sialis lutaria</i> (L.)	A
<i>Mystacides azurea</i> (L.)	A	<i>Valvata piscinalis</i> (Müller)	B
<i>Goera pilosa</i> (Fabricius)	A	<i>Potamopyrgus jenkinsi</i> (Smith)	B
<i>Calopteryx splendens</i> (Harris)	A	<i>Bithynia tentaculata</i> (L.)	B
<i>Caenis luctuosa</i> group	B	<i>Lymnaea auricularia</i> (L.)	A
<i>Neureclipsis bimaculata</i> L.	B	<i>Lymnaea peregra</i> (Müller)	A
<i>Polycentropus flavomaculatus</i> (Pictet)	B	<i>Lymnaea stagnalis</i> (L.)	A
Limnephilidae	B	<i>Physa fontinalis</i> (L.)	A
<i>Theodoxus fluviatilis</i> (L.)	B	<i>Anisus vortex</i> (L.)	B
<i>Acroloxus lacustris</i> (L.)	A	<i>Bathyomphalus contortus</i> (L.)	A
<i>Corophium curvispinum</i> Sars	B	<i>Gyraulus albus</i> (Müller)	B
<i>Crangonyx pseudogracilis</i> Bousfield	A	Sphaeriidae	C
<i>Gammarus pulex</i> (L.)	C	<i>Glossiphonia complanata</i> (L.)	B
<i>Ischnura elegans</i> (Van der Linden)	A	<i>Theromyzon tessulatum</i> (Müller)	A
<i>Notonecta glauca</i> L.	A	<i>Asellus aquaticus</i> (L.)	C
<i>Hydrometra stagnorum</i> (L.)	A	Chironomidae	C
<i>Sigara dorsalis</i> group	A	Oligochaeta	C
<i>Sigara falleni</i> (Fieber)	B	Ceratopogonidae	A
<i>Hydropsyche angustipennis</i> (Curtis)	A	Hydracarina	A
<i>Hydropsyche contubernalis</i> McLachan	B	Ostracoda	B
<i>Hydropsyche pellucidula</i> (Curtis)	A	<i>Dixa nebulosa</i> Meigen	A
<i>Hydropsyche siltalai</i> Döhler	B	Daphniidae	A
<i>Dugesia polychroa</i> group	A	<i>Sida crystallina</i> (Müller)	B
<i>Dugesia tigrina</i> (Girard)	A	<i>Eurycercus lamellatus</i> (Müller)	B



Macroinvertebrate taxon list for River Colne below Moorfield Road (TQ04508840) - 6/11/95

No Red Data Book or Notable species were found in sample. Of the recorded taxa only the caddis species *Limnephilus rhombicus* occurs in <5% of the RIVPACS III reference sites.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Aphelocheirus aestivalis</i> (Fabricius)	B	<i>Erpobdella octoculata</i> (L.)	A
<i>Athripsodes cinereus</i> (Curtis)	A	<i>Asellus aquaticus</i> (L.)	B
<i>Calopteryx splendens</i> (Harris)	A	Chironomidae	C
<i>Caenis luctuosa</i> group	A	Oligochaeta	C
<i>Limnephilus rhombicus</i> (L.)	A		
<i>Theodoxus fluviatilis</i> (L.)	B		
<i>Gammarus pulex</i> (L.)	D		
<i>Ischnura elegans</i> (Van der Linden)	A		
<i>Gerris</i> sp.	A		
<i>Elmis aenea</i> (Müller)	B		
<i>Limnius volckmari</i> (Panzer)	B		
<i>Hydropsyche angustipennis</i> (Curtis)	B		
<i>Hydropsyche contubernalis</i> McLachan	A		
<i>Hydropsyche pellucidula</i> (Curtis)	B		
<i>Hydropsyche siltalai</i> Döhler	B		
<i>Simulium</i> ( <i>Nevermannia</i> ) <i>angustitarse</i> group	A		
<i>Simulium</i> ( <i>Simulium</i> ) <i>ornatum</i> group	B		
<i>Simulium</i> ( <i>Wilhelmia</i> ) sp.	A		
<i>Dugesia tigrina</i> (Girard)	A		
<i>Polycelis nigra</i> group	A		
<i>Dendrocoelum lacteum</i> (Müller)	A		
<i>Baetis rhodani</i> (Pictet)	B		
<i>Baetis vernus</i> Curtis	A		
<i>Physa fontinalis</i> (L.)	A		
Sphaeriidae	B		
<i>Glossiphonia complanata</i> (L.)	A		

**Macroinvertebrate taxon list for River Colne at Gauging Station, Denham (TQ05208630)**  
**- 4/9/96**

No Red Data Book or Notable species were found in sample. Of the recorded taxa the following species occur in <5% of the RIVPACS III reference sites; the caddis *Ceraclea nigronervosa*, the Red-eyed damselfly *Erythromma najas* and the leech *Trocheta bykowskii*.

<u>Taxa</u>	<u>Abund.</u>	<u>Taxa</u>	<u>Abund</u>
<i>Ephemerella ignita</i> (Poda)	A	<i>Simulium (Wilhelmia) sp.</i>	A
<i>Aphelocheirus aestivalis</i> (Fabricius)	A	<i>Dugesia tigrina</i> (Girard)	A
<i>Athripsodes cinereus</i> (Curtis)	A	<i>Dugesia polychroa</i> group	A
<i>Ceraclea nigronervosa</i> (Retzius)	A	<i>Dendrocoelum lacteum</i> (Müller)	A
<i>Mystacides azurea</i> (L.)	A	<i>Baetis rhodani</i> (Pictet)	A
<i>Calopteryx splendens</i> (Harris)	A	<i>Baetis vernus</i> Curtis	B
<i>Caenis luctuosa</i> group	A	<i>Sialis lutaria</i> (L.)	A
<i>Polycentropus flavomaculatus</i> (Pictet)	A	<i>Piscicola geometra</i> (L.)	A
<i>Theodoxus fluviatilis</i> (L.)	B	<i>Bithynia leachii</i> (Sheppard)	C
<i>Acroloxus lacustris</i> (L.)	A	<i>Bithynia tentaculata</i> (L.)	B
<i>Ancylus fluviatilis</i> Müller	A	<i>Lymnaea peregra</i> (Müller)	A
<i>Hydroptila sp.</i>	A	<i>Physa fontinalis</i> (L.)	B
<i>Gammarus pulex</i> (L.)	C	<i>Anisus vortex</i> (L.)	A
<i>Erythromma najas</i> (Hansemann)	A	<i>Gyraulus albus</i> (Müller)	A
<i>Ischnura elegans</i> (Van der Linden)	B	Sphaeriidae	B
<i>Sigara dorsalis</i> group	A	<i>Glossiphonia complanata</i> (L.)	A
<i>Elmis aenea</i> (Müller)	B	<i>Helobdella stagnalis</i> (L.)	A
<i>Oulimnius sp.</i>	A	<i>Erpobdella octoculata</i> (L.)	B
<i>Hydropsyche angustipennis</i> (Curtis)	A	<i>Trocheta bykowskii</i> Gedroyć	A
<i>Hydropsyche contubernalis</i> McLachan	A	<i>Asellus aquaticus</i> (L.)	B
<i>Hydropsyche pellucidula</i> (Curtis)	B	Chironomidae	B
<i>Hydropsyche siltalai</i> Döhler	A	Oligochaeta	C
<i>Simulium (Nevermannia) angustitarse</i> group	A	Hydracarina	A
<i>Simulium (Boophthora) erythrocephalum</i> (de Geer)	A	Ostracoda	A
<i>Simulium (Simulium) ornatum</i> group	A	<i>Limnophora sp.</i>	A

# Macroinvertebrate taxon list for Colne Brook U/S Iver Lane Bridge(TQ04208140) - 11/9/96

No Red Data Book or Notable species were found in sample. Of the recorded taxa the following species occur in <5% of the RIVPACS III reference sites; the caddis *Ceraclea nigronervosa* and the Ear Snail *Lymnaea auricularia*.

<u>Taxa</u>	<u>Abund.</u>	<u>Taxa</u>	<u>Abund.</u>
<i>Ephemerella ignita</i> (Poda)	A	<i>Simulium (Eusimulium) aureum</i> group	A
<i>Ephemera danica</i> Müller	B	<i>Simulium</i> sp.	A
<i>Aphelocheirus aestivalis</i> (Fabricius)	B	<i>Simulium (Boophthora) erythrocephalum</i> (de Geer)	B
<i>Athripsodes cinereus</i> (Curtis)	B	<i>Simulium (Simulium) ornatum</i> group	A
<i>Ceraclea nigronervosa</i> (Retzius)	A	<i>Simulium (Wilhelmia) sp.</i>	B
<i>Mystacides azurea</i> (L.)	B	<i>Dugesia tigrina</i> (Girard)	A
<i>Calopteryx splendens</i> (Harris)	A	<i>Baetis scambus</i> group	B
<i>Caenis luctuosa</i> group	B	<i>Centroptilum luteolum</i> (Müller)	A
<i>Agapetus</i> sp.	A	<i>Sialis lutaria</i> (L.)	A
<i>Rhyacophila dorsalis</i> (Curtis)	B	<i>Valvata piscinalis</i> (Müller)	A
<i>Polycentropus flavomaculatus</i> (Pictet)	B	<i>Potamopyrgus jenkinsi</i> (Smith)	C
Limnephilidae	A	<i>Bithynia tentaculata</i> (L.)	C
<i>Ancylus fluviatilis</i> Müller	B	<i>Lymnaea auricularia</i> (L.)	A
<i>Hydroptila</i> sp.	A	<i>Lymnaea peregra</i> (Müller)	B
<i>Gammarus pulex</i> (L.)	D	<i>Anisus vortex</i> (L.)	A
<i>Ischnura</i> sp.	A	<i>Bathyomphalus contortus</i> (L.)	A
<i>Gerris</i> sp.	A	<i>Gyraulus albus</i> (Müller)	B
<i>Brychius elavatus</i> (Panzer)	A	Sphaeriidae	C
<i>Potamonectes depressus</i> (Fabricius)	A	<i>Glossiphonia complanata</i> (L.)	A
<i>Orectochilus villosus</i> (Müller)	A	<i>Erpobdella octoculata</i> (L.)	A
<i>Elmis aenea</i> (Müller)	B	<i>Asellus aquaticus</i> (L.)	B
<i>Limnius volckmari</i> (Panzer)	B	Chironomidae	C
<i>Oulimnius tuberculatus</i> (Müller)	A	Oligochaeta	B
<i>Hydropsyche angustipennis</i> (Curtis)	B	Hydracarina	B
<i>Hydropsyche pellucidula</i> (Curtis)	B	Ostracoda	A
<i>Hydropsyche siltalai</i> Döhler	C	<i>Limnophora</i> sp.	A
<i>Simulium (Nevermannia) angustitarse</i> group	A	Nematoda	A

**Macroinvertebrate taxon list for Colne Brook below Railway Line Iver (TQ04707990) - 11/9/96**

No Red Data Book or Notable species were found in sample. Of the recorded taxa the following species occur in <5% of the RIVPACS III reference sites; the water scorpion *Nepa cinerea* and the Ear Snail *Lymnaea auricularia*.

<u>Taxa</u>	<u>Abund.</u>	<u>Taxa</u>	<u>Abund.</u>
<i>Ephemerella ignita</i> (Poda)	A	<i>Duegesia polychroa</i> group	A
<i>Phryganea</i> sp.	A	<i>Dendrocoelum lacteum</i> Müller	A
<i>Athripsodes cinereus</i> (Curtis)	A	<i>Baetis rhodani</i> (Pictet)	A
<i>Mystacides azurea</i> (L.)	A	<i>Baetis scambus</i> group	C
<i>Calopteryx</i> sp.	A	<i>Baetis vernus</i> Curtis	B
<i>Caenis luctuosa</i> group	B	<i>Valvata piscinalis</i> (Müller)	A
<i>Rhyacophila dorsalis</i> (Curtis)	A	<i>Bithynia leachii</i> (Sheppard)	C
<i>Polycentropus flavomaculatus</i> (Pictet)	B	<i>Bithynia tentaculata</i> (L.)	B
<i>Ancylus fluviatilis</i> Müller	B	<i>Lymnaea auricularia</i> (L.)	A
<i>Hydroptila</i> sp.	B	<i>Lymnaea peregra</i> (Müller)	A
<i>Gammarus pulex</i> (L.)	C	<i>Physa fontinalis</i> (L.)	B
<i>Nepa cinerea</i> L.	A	<i>Anisus vortex</i> (L.)	B
<i>Orectochilus villosus</i> (Müller)	A	<i>Gyraulus albus</i> (Müller)	B
<i>Elmis aenea</i> (Müller)	C	<i>Planorbis carinatus</i> Müller	A
<i>Limnius volckmari</i> (Panzer)	A	Sphaeniidae	B
<i>Oulimnius tuberculatus</i> (Müller)	A	<i>Glossiphonia complanata</i> (L.)	B
<i>Oulimnius</i> sp.	A	<i>Theromyzon tessulatum</i> (Müller)	A
<i>Hydropsyche angustipennis</i> (Curtis)	A	<i>Erpobdella octoculata</i> (L.)	B
<i>Hydropsyche pellucidula</i> (Curtis)	A	<i>Asellus aquaticus</i> (L.)	B
<i>Hydropsyche siltalai</i> Döhler	B	Chironomidae	C
<i>Simulium</i> ( <i>Nevermannia</i> ) <i>angustitarse</i> group	B	Oligochaeta	B
<i>Simulium</i> ( <i>Boophthora</i> ) <i>erythrocephalum</i> (de Geer)	C	Hydracarina	B
<i>Simulium</i> ( <i>Simulium</i> ) <i>ornatum</i> group	B	Ostracoda	A
<i>Simulium</i> ( <i>Wilhelmia</i> ) sp.	C	Ceratopogonidae	A
<i>Dugesia tigrina</i> (Girard)	A		

**Macroinvertebrate taxon list for Colne Brook below Railway Line Iver (TQ04707990) - 11/9/96**

No Red Data Book or Notable species were found in sample. Of the recorded taxa the following species occur in <5% of the RIVPACS III reference sites; the water scorpion *Nepa cinerea* and the Ear Snail *Lymnaea auricularia*.

<u>Taxa</u>	<u>Abund.</u>	<u>Taxa</u>	<u>Abund.</u>
<i>Ephemerella ignita</i> (Poda)	A	<i>Duegesia polychroa</i> group	A
<i>Phryganea</i> sp.	A	<i>Dendrocoelum lacteum</i> Müller	A
<i>Athripsodes cinereus</i> (Curtis)	A	<i>Baetis rhodani</i> (Pictet)	A
<i>Mystacides azurea</i> (L.)	A	<i>Baetis scambus</i> group	C
<i>Calopteryx</i> sp.	A	<i>Baetis vernus</i> Curtis	B
<i>Caenis luctuosa</i> group	B	<i>Valvata piscinalis</i> (Müller)	A
<i>Rhyacophila dorsalis</i> (Curtis)	A	<i>Bithynia leachii</i> (Sheppard)	C
<i>Polycentropus flavomaculatus</i> (Pictet)	B	<i>Bithynia tentaculata</i> (L.)	B
<i>Ancylus fluviatilis</i> Müller	B	<i>Lymnaea auricularia</i> (L.)	A
<i>Hydroptila</i> sp.	B	<i>Lymnaea peregra</i> (Müller)	A
<i>Gammarus pulex</i> (L.)	C	<i>Physa fontinalis</i> (L.)	B
<i>Nepa cinerea</i> L.	A	<i>Anisus vortex</i> (L.)	B
<i>Orectochilus villosus</i> (Müller)	A	<i>Gyraulus albus</i> (Müller)	B
<i>Elmis aenea</i> (Müller)	C	<i>Planorbis carinatus</i> Müller	A
<i>Limnius volckmari</i> (Panzer)	A	Sphaeriidae	B
<i>Oulimnius tuberculatus</i> (Müller)	A	<i>Glossiphonia complanata</i> (L.)	B
<i>Oulimnius</i> sp.	A	<i>Theromyzon tessulatum</i> (Müller)	A
<i>Hydropsyche angustipennis</i> (Curtis)	A	<i>Erpobdella octoculata</i> (L.)	B
<i>Hydropsyche pellucidula</i> (Curtis)	A	<i>Asellus aquaticus</i> (L.)	B
<i>Hydropsyche siltalai</i> Döhler	B	Chironomidae	C
<i>Simulium</i> ( <i>Nevermannia</i> ) <i>angustitarse</i> group	B	Oligochaeta	B
<i>Simulium</i> ( <i>Boophthora</i> ) <i>erythrocephalum</i> (de Geer)	C	Hydracarina	B
<i>Simulium</i> ( <i>Simulium</i> ) <i>ornatum</i> group	B	Ostracoda	A
<i>Simulium</i> ( <i>Wilhelmia</i> ) sp.	C	Ceratopogonidae	A
<i>Dugesia tigrina</i> (Girard)	A		

**Macroinvertebrate taxon list for Colne Brook at Wraysbury Brook Station (TQ01507420)**  
**- 6/11/95**

No Red Data or Notable species were found in sample. Of the recorded taxa only the bivalve mollusc *Anodonta* group occurs in <5% of the RIVPACS III reference sites.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Ephemera danica</i> Müller	B	<i>Sialis lutaria</i> (L.)	A
<i>Athripsodes cinereus</i> (Curtis)	A	<i>Potamopyrgus jenkinsi</i> (Smith)	C
<i>Mystacides azurea</i> (L.)	B	<i>Bithynia leachii</i> (Sheppard)	A
<i>Calopteryx splendens</i> (Harris)	A	<i>Bithynia tentaculata</i> (L.)	A
<i>Tinodes waeneri</i> (L.)	B	<i>Lymnaea peregra</i> (Müller)	A
<i>Caenis luctuosa</i> group	C	<i>Gyraulus albus</i> (Müller)	A
<i>Polycentropus flavomaculatus</i> (Pictet)	B	Sphaeriidae	C
<i>Ancylus fluviatilis</i> Müller	B	<i>Glossiphonia complanata</i> (L.)	A
<i>Hydroptila</i> sp.	A	<i>Erpobdella octoculata</i> (L.)	A
<i>Anodonta</i> group	A	<i>Asellus aquaticus</i> (L.)	B
<i>Gammarus pulex</i> (L.)	C	Chironomidae	C
<i>Ischnura elegans</i> (Van der Linden)	A	Oligochaeta	C
<i>Orectochilus villosus</i> (Müller)	A	Ostracoda	A
<i>Elmis aenea</i> (Müller)	C	Ceratopogonidae	A
<i>Oulimnius</i> sp.	B		
<i>Hydropsyche angustipennis</i> (Curtis)	A		
<i>Hydropsyche contubernalis</i> McLachan	B		
<i>Hydropsyche pellucidula</i> (Curtis)	B		
<i>Hydropsyche siltalai</i> Döhler	A		
<i>Tipula montium</i> group	A		
<i>Simulium</i> ( <i>Boophthora</i> ) <i>erythrocephalum</i> (de Geer)	A		
<i>Simulium</i> ( <i>Wilhelmia</i> ) sp.	A		
<i>Dendrocoelum lacteum</i> Müller	A		
<i>Baetis scambus</i> group	A		
<i>Centroptilum luteolum</i> (Müller)	A		

**Macroinvertebrate taxon list for Duke of Northumberland's (upper) River Gardens (TQ11107460) - 17/5/95**

No Red Data Book or Notable species were found in sample. Of the recorded taxa the following occur in <5% of the RIVPACS III reference sites; the River Snail *Viviparus viviparus*, the snail *Physa acuta* group, the Great Ramhorn snail *Planorbarius corneus* and the leech *Glossiphonia heteroclita*. The Lesser Backswimmer *Plea leachi* was not recorded in any of the RIVPACS III reference sites.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Ephemerella ignita</i> (Poda)	A	<i>Piscicola geometra</i> (L.)	A
<i>Athripsodes aterrimus</i> (Stephens)	A	<i>Valvata piscinalis</i> (Müller)	A
<i>Athripsodes cinereus</i> (Curtis)	A	<i>Potamopyrgus jenkinsi</i> (Smith)	A
<i>Mystacides azurea</i> (L.)	A	<i>Bithynia tentaculata</i> (L.)	B
<i>Mystacides nigra/longicornis</i>	A	<i>Lymnaea peregra</i> (Müller)	B
<i>Calopteryx splendens</i> (Harris)	A	<i>Physa acuta</i> group	A
<i>Caenis luctuosa</i> group	C	<i>Armiger crista</i> (L.)	A
<i>Polycentropus flavomaculatus</i> (Pictet)	A	<i>Gyraulus albus</i> (Müller)	A
<i>Limnephilus lunatus</i> Curtis	A	<i>Planorbarius corneus</i> (L.)	A
<i>Viviparus viviparus</i> (L.)	A	Sphaeriidae	B
<i>Hydroptila</i> sp.	A	<i>Glossiphonia heteroclita</i> (L.)	A
<i>Gammarus pulex</i> (L.)	C	<i>Helobdella stagnalis</i> (L.)	A
<i>Ischnura elegans</i> (Van der Linden)	B	<i>Erpobdella octoculata</i> (L.)	B
<i>Gerris</i> sp.	A	<i>Asellus aquaticus</i> (L.)	C
Corixidae	A	Chironomidae	C
<i>Plea leachi</i> McGregor & Kirkaldy	A	Oligochaeta	C
Gyrinidae	A	Ceratopogonidae	A
Hydrophilidae	A	<i>Hemerodromia</i> group	A
<i>Elmis aenea</i> (Müller)	A	<i>Limnophora</i> sp.	A
<i>Oulimnius</i> sp.	A		
<i>Hydropsyche angustipennis</i> (Curtis)	B		
<i>Hydropsyche pellucidula</i> (Curtis)	A		
<i>Dugesia polychroa</i> group	A		
<i>Baetis vernus</i> Curtis	A		

**Macroinvertebrate taxon list for Duke of Northumberland's (upper) River Gardens (TQ11107460) - 23/10/95**

No Red Data Book or Notable species were found in sample. Of the recorded taxa the following occur in <5% of the RIVPACS III reference sites; the caddis *Agraylea multipunctata* and the dipteran *Helius* sp.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Mystacides azurea</i> (L.)	B	<i>Asellus aquaticus</i> (L.)	A
<i>Calopteryx splendens</i> (Harris)	A	Chironomidae	C
<i>Tinodes waeneri</i> (L.)	A	Oligochaeta	B
<i>Caenis luctuosa</i> group	C	Ceratopogonidae	A
<i>Cyrnus trimaculatus</i> (Curtis)	A	<i>Eurycercus lamellatus</i> (Müller)	A
<i>Polycentropus flavomaculatus</i> (Pictet)	A		
<i>Anycus fluvialis</i> Müller	A		
<i>Agraylea multipunctata</i> Curtis	B		
<i>Gammarus pulex</i> (L.)	B		
<i>Ischnura elegans</i> (Van der Linden)	A		
<i>Sigara dorsalis</i> group	A		
<i>Sigara falleni</i> (Fieber)	A		
<i>Elmis aenea</i> (Müller)	A		
<i>Oulimnius</i> sp.	A		
<i>Hydropsyche angustipennis</i> (Curtis)	B		
<i>Hydropsyche pellucidula</i> (Curtis)	A		
<i>Tipula montium</i> group	A		
<i>Helius</i> sp.	A		
<i>Cloeon dipterum</i> (L.)	A		
<i>Sialis lutaria</i> (L.)	A		
<i>Piscicola geometra</i> (L.)	A		
<i>Potamopyrgus jenkinsi</i> (Smith)	A		
<i>Bithynia tentaculata</i> (L.)	A		
<i>Lymnaea peregra</i> (Müller)	A		
Sphaeriidae	A		
<i>Erpobdella octoculata</i> (L.)	A		



Macroinvertebrate taxon list for Frays River at Packet Boat Lane (TQ05118108) - 2/5/95

No Red Data Book or Notable species were found in sample. Of the recorded species the following were found in <5% of RIVPACS III reference sites; the caddis species *Neureclipsis bimaculata* and *Limnephilus rhombicus* and the bivalve mollusc *Anodonta* group.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Molanna angustata</i> Curtis	A	<i>Sialis lutaria</i> (L.)	A
<i>Athripsodes cinereus</i> (Curtis)	A	<i>Potamopyrgus jenkinsi</i> (Smith)	A
<i>Ceraclea dissimilis</i> (Stephens)	A	<i>Bithynia leachii</i> (Sheppard)	A
<i>Calopteryx splendens</i> (Harris)	A	<i>Bithynia tentaculata</i> (L.)	B
<i>Lype</i> sp.	A	<i>Lymnaea palustris</i> (Müller)	A
<i>Tinodes waeneri</i> (L.)	A	<i>Gyraulus albus</i> (Müller)	A
<i>Caenis luctuosa</i> group	C	<i>Planorbis carinatus</i> Müller	A
<i>Cyrnus trimaculatus</i> (Curtis)	A	Sphaeriidae	B
<i>Neureclipsis bimaculata</i> (L.)	A	<i>Glossiphonia complanata</i> (L.)	A
<i>Polycentropus flavomaculatus</i> (Pictet)	B	<i>Helobdella stagnalis</i> (L.)	A
<i>Limnephilus lunatus</i> Curtis	A	<i>Asellus aquaticus</i> (L.)	B
<i>Limnephilus rhombicus</i> (L.)	A	Chironomidae	C
<i>Anycus fluviatilis</i> Müller	A	Oligochaeta	C
<i>Hydroptila</i> sp.	A	Ceratopogonidae	A
<i>Anodonta</i> group	A		
<i>Crangonyx pseudogracilis</i> Bousfield	A		
<i>Gammarus pulex</i> (L.)	B		
<i>Ischnura elegans</i> (Van der Linden)	A		
<i>Gerris</i> sp.	A		
<i>Potamonectes depressus</i> (Fabricius)	A		
<i>Elmis aenea</i> (Müller)	A		
<i>Hydropsyche pellucidula</i> (Curtis)	A		
<i>Hydropsyche siltalai</i> Döhler	A		
<i>Simulium</i> ( <i>Boophthora</i> ) <i>erythrocephalum</i> (de Geer)	A		
<i>Simulium</i> ( <i>Wilhelmia</i> ) sp.	B		
<i>Baetis vernus</i> Curtis	A		

# Macroinvertebrate taxon list for Frays River at Packet Boat Lane (TQ05118108) - 27/11/95

No Red Data Book or Notable species were found in sample. Of the recorded taxa the following occur in <5% of the RIVPACS III reference sites; the caddis *Neureclipsis bimaculata* and the bivalve mollusc *Anodonta* group.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Molanna angustata</i> Curtis	A	<i>Lymnaea peregra</i> (Müller)	A
<i>Athripsodes cinereus</i> (Curtis)	B	<i>Gyraulus albus</i> (Müller)	A
<i>Mystacides azurea</i> (L.)	B	Sphaeriidae	C
<i>Calopteryx splendens</i> (Harris)	A	<i>Glossiphonia complanata</i> (L.)	A
<i>Lype</i> sp.	A	<i>Theromyzon tessulatum</i> (Müller)	A
<i>Caenis luctuosa</i> group	C	<i>Erpobdella octoculata</i> (L.)	A
<i>Cyrnus trimaculatus</i> (Curtis)	A	<i>Asellus aquaticus</i> (L.)	B
<i>Neureclipsis bimaculata</i> (L.)	A	Chironomidae	B
<i>Polycentropus</i> sp.	A	Oligochaeta	C
<i>Halesus</i> sp.	A	Hydracarina	A
Limnephilidae	B	<i>Pericoma trivialis</i> group	A
<i>Hydroptila</i> sp.	A	Ostracoda	A
<i>Anodonta</i> group	A		
<i>Crangonyx pseudogracilis</i> Bousfield	A		
<i>Gammarus pulex</i> (L.)	C		
<i>Ischnura</i> sp.	A		
<i>Elmis aenea</i> (Müller)	B		
<i>Oulimnius</i> sp.	A		
<i>Hydropsyche pellucidula</i> (Curtis)	A		
<i>Hydropsyche siltalai</i> Döhler	A		
<i>Simulium</i> ( <i>Simulium</i> ) <i>ornatum</i> group	A		
<i>Simulium</i> ( <i>Wilhelmia</i> ) sp.	A		
<i>Sialis lutaria</i> (L.)	A		
<i>Potamopyrgus jenkinsi</i> (Smith)	B		
<i>Bithynia leachii</i> (Sheppard)	A		
<i>Bithynia tentaculata</i> (L.)	A		

# Macroinvertebrate taxon list for Horton Brook above Colne Brook (TQ01807240) - 15/5/95

The RDB3 rhagionid fly *Atrichops crassipes* was found in the sample. Of the other recorded taxa the following occur in <5% of the RIVPACS III reference sites; the snail *Physa acuta* group and the dipteran *Peripsychoda fusca*.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Ephemerella ignita</i> (Poda)	A	<i>Lymnaea peregra</i> (Müller)	B
<i>Ephemera danica</i> Müller	A	<i>Lymnaea stagnalis</i> (L.)	A
<i>Aphelocheirus aestivalis</i> (Fabricius)	B	<i>Physa acuta</i> group	A
<i>Athripsodes cinereus</i> (Curtis)	A	<i>Anisus vortex</i> (L.)	A
<i>Lype</i> sp.	A	<i>Bathyomphalus contortus</i> (L.)	A
<i>Caenis luctuosa</i> group	C	Sphaeriidae	C
<i>Caenis horaria</i> (L.)	A	<i>Glossiphonia complanata</i> (L.)	A
<i>Polycentropus flavomaculatus</i> (Pictet)	A	<i>Helobdella stagnalis</i> (L.)	A
<i>Halesus</i> sp.	A	<i>Erpobdella octoculata</i> (L.)	A
<i>Limnephilus lunatus</i> Curtis	B	<i>Asellus aquaticus</i> (L.)	C
<i>Theodoxus fluviatilis</i> (L.)	A	Chironomidae	C
<i>Hydroptila</i> sp.	A	Oligochaeta	C
<i>Gammarus pulex</i> (L.)	C	Ceratopogonidae	B
<i>Velia</i> sp.	A	Hydracarina	A
<i>Haliplus</i> sp.	A	Ostracoda	A
<i>Elmis aenea</i> (Müller)	A	Copepoda	A
<i>Oulimnius</i> sp.	A	<i>Peripsychoda fusca</i> (Macquart)	A
<i>Dugesia polychroa</i> group	A	<i>Atrichops crassipes</i> (Meigen)	A
<i>Dugesia tigrina</i> (Girard)	A		
<i>Dendrocoelum lacteum</i> (Müller)	A		
<i>Piscicola geometra</i> (L.)	A		
<i>Valvata cristata</i> Müller	A		
<i>Valvata piscinalis</i> (Müller)	A		
<i>Potamopyrgus jenkinsi</i> (Smith)	D		
<i>Bithynia leachii</i> (Sheppard)	B		
<i>Bithynia tentaculata</i> (L.)	B		

# Macroinvertebrate taxon list for Horton Brook above Colne Brook (TQ01807240) -23/10/95

The RDB3 rhagionid fly *Atrichops crassipes* was found in the sample. None of the other recorded taxa occur in <5% of the RIVPACS III reference sites.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Ephemera danica</i> Müller	A	<i>Erpobdella octoculata</i> (L.)	A
<i>Aphelocheirus aestivalis</i> (Fabricius)	A	<i>Asellus aquaticus</i> (L.)	B
<i>Calopteryx</i> sp.	A	Chironomidae	B
<i>Lype</i> sp.	A	Oligochaeta	B
<i>Caenis luctuosa</i> group	A	Ostracoda	A
<i>Polycentropus flavomaculatus</i> (Pictet)	A	<i>Pericoma trivialis</i> group	A
Limnephilidae	A	<i>Atrichops crassipes</i> (Meigen)	A
<i>Theodoxus fluviatilis</i> (L.)	A	Chordodidae	A
<i>Acroloxus lacustris</i> (L.)	A	<i>Eurycercus lamellatus</i> (Müller)	A
<i>Gammarus pulex</i> (L.)	C		
Dytiscidae	A		
<i>Oulimnius</i> sp.	A		
<i>Hydropsyche pellucidula</i> (Curtis)	A		
<i>Pilaria</i> sp.	A		
<i>Simulium</i> ( <i>Eusimulium</i> ) <i>aureum</i> group	A		
<i>Simulium</i> ( <i>Nevermannia</i> ) <i>angustitarse</i> group	A		
<i>Simulium</i> ( <i>Simulium</i> ) <i>ornatum</i> group	A		
<i>Sialis lutaria</i> (L.)	A		
<i>Baetis vernus</i> Curtis	A		
<i>Cloeon dipterum</i> (L.)	A		
<i>Valvata cristata</i> Müller	A		
<i>Potamopyrgus jenkinsi</i> (Smith)	C		
<i>Bithynia leachii</i> (Sheppard)	A		
<i>Anisus vortex</i> (L.)	A		
<i>Bathymphalus contortus</i> (L.)	A		
Sphaeriidae	C		
<i>Glossiphonia complanata</i> (L.)	B		

# Macroinvertebrate taxon list for Horton Brook above Colne Brook (TQ01807240) - 3/10/96

No Red Data Book or Notable species were found in sample. Of the recorded taxa the following species occur in <5% of the RIVPACS III reference sites; the caddis *Oecetis testacea* and the Common Blue Damselfly *Enallagma cyathigerum*.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Ephemera danica</i> Müller	A	<i>Potamopyrgus jenkinsi</i> (Smith)	B
<i>Aphelocheirus aestivalis</i> (Fabricius)	A	<i>Bithynia tentaculata</i> (L.)	A
<i>Athripsodes cinereus</i> (Curtis)	A	<i>Lymnaea peregra</i> (Müller)	B
<i>Mystacides azurea</i> (L.)	A	<i>Anisus vortex</i> (L.)	A
<i>Oecetis testacea</i> (Curtis)	A	<i>Armiger crista</i> (L.)	A
<i>Calopteryx</i> sp.	B	<i>Bathyomphalus contortus</i> (L.)	A
<i>Caenis horaria</i> (L.)	A	<i>Gyraulus albus</i> (Müller)	B
<i>Caenis luctuosa</i> group	B	Sphaeriidae	B
<i>Polycentropus flavomaculatus</i> (Pictet)	B	<i>Glossiphonia complanata</i> (L.)	B
<i>Theodoxus fluviatilis</i> (L.)	A	<i>Asellus aquaticus</i> (L.)	C
<i>Acroloxus lacustris</i> (L.)	A	Chironomidae	B
<i>Gammarus pulex</i> (L.)	C	Oligochaeta	B
<i>Enallagma cyathigerum</i> (Charpentier)	A	Hydracarina	A
<i>Ischnura elegans</i> (Van der Linden)	A	Hydridae	A
<i>Gerris</i> sp.	A		
<i>Brychius eleavatus</i> (Panzer)	A		
<i>Haliplus</i> sp.	A		
Dytiscidae	A		
<i>Elmia aenea</i> (Müller)	A		
<i>Oulinus tuberculatus</i> (Müller)	A		
<i>Hydropsyche angustipennis</i> (Curtis)	A		
<i>Hydropsyche pellucidula</i> (Curtis)	A		
<i>Hydropsyche siltalai</i> Döhler	A		
<i>Simulium</i> ( <i>Boophthora</i> ) <i>erythrocephalum</i> (de Geer)	A		
<i>Sialis lutaria</i> (L.)	A		
<i>Baetis vernus</i> Curtis	A		

**Macroinvertebrate taxon list for Misbourne U/S Gerrards Cross STW (TQ01308830) - 26/9/95**

No Red Data Book or Notable species were found in sample. None of the recorded taxa occur in <5% of the RIVPACS III reference sites.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Ephemerella ignita</i> (Poda)	A	Hydracarina	A
<i>Odontocerum albicorne</i> (Scopoli)	A	Ceratopogonidae	A
<i>Silo nigricornis</i> (Pictet)	A	<i>Limnophora</i> sp.	A
<i>Agapetus</i> sp.	B	<i>Oxycera pulchella</i> Meigen	A
<i>Rhyacophila dorsalis</i> (Curtis)	B	<i>Dixa nebulosa</i> Meigen	A
<i>Oxyethira</i> sp.	A		
<i>Gammarus pulex</i> (L.)	D		
<i>Elmia aenea</i> (Müller)	B		
<i>Limnius vockmari</i> (Panzer)	A		
<i>Hydropsyche pellucidula</i> (Curtis)	A		
<i>Hydropsyche siltalai</i> Döhler	B		
<i>Dicranota</i> sp.	A		
<i>Simulium</i> ( <i>Nevermannia</i> ) <i>anugustitarse</i> group	C		
<i>Simulium</i> ( <i>Simulium</i> ) <i>ornatum</i> group	C		
<i>Polycelis nigra</i> group	A		
<i>Baetis rhodani</i> (Pictet)	B		
<i>Piscicola geometra</i> (L.)	A		
<i>Potamopyrgus jenkinsi</i> (Smith)	B		
<i>Lymnaea peregra</i> (Müller)	A		
<i>Anisus vortex</i> (L.)	A		
<i>Gyraulus albus</i> (Müller)	A		
Sphaeriidae	A		
<i>Glossiphonia complanata</i> (L.)	A		
<i>Erpobdella octoculata</i> (L.)	A		
Chironomidae	C		
Oligochaeta	B		

**Macroinvertebrate taxon list for Misbourne D/S Gerrards Cross STW (TQ02908760) - 26/9/95**

No Red Data Book or Notable species were found in sample. Of the recorded taxa the following species occur in <5% of the RIVPACS III reference sites; the corixids *Callicorixa praeusta*, *Hesperocorixa sahlbergi* and *Sigara lateralis*, the greater water boatman *Notonecta glauca* and the hydrophilid beetle *Hydraena riparia*.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Sericostoma personatum</i> (Spence)	B	<i>Glossiphonia complanata</i> (L.)	B
<i>Calopteryx</i> sp.	A	<i>Erpobdella octoculata</i> (L.)	A
<i>Caenis luctuosa</i> group	A	Chironomidae	B
<i>Agapetus</i> sp.	C	Oligochaeta	B
Limnephilidae	A	Hydracarina	B
<i>Gammarus pulex</i> (L.)	D	Ceratopogonidae	A
<i>Notonecta glauca</i> L.	A	Ostracoda	A
<i>Callicorixa praeusta</i> (Fieber)	A	<i>Dixa nebulosa</i> Meigen	A
<i>Hesperocorixa sahlbergi</i> (Fieber)	A		
<i>Sigara dorsalis</i> group	A		
<i>Sigara lateralis</i> (Leach)	A		
<i>Brychius elevatus</i> (Panzer)	A		
<i>Hydraena riparia</i> Kugelann	A		
<i>Elmia aenea</i> (Müller)	B		
<i>Limnius volckmari</i> (Panzer)	A		
<i>Hydropsyche angustipennis</i> (Curtis)	A		
<i>Hydropsyche pellucidula</i> (Curtis)	B		
<i>Hydropsyche siltalai</i> Döhler	A		
<i>Dicranota</i> sp.	B		
<i>Polycelis nigra</i> group	A		
<i>Baetis rhodani</i> (Pictet)	A		
<i>Sialis lutaria</i> (L.)	A		
<i>Anisus vortex</i> (L.)	A		
<i>Bathymphalus contortus</i> (L.)	A		
Sphaeriidae	B		

**Macroinvertebrate taxon list for New Years Green Bourne above Frays River  
(TQ05358630) - 2/5/95**

The Notable caddis species *Ceraclea senilis* was found in sample. Of the other recorded taxa the following occur in <5% of the RIVPACS III reference sites; the caddis *Neureclipsis bimaculata*, the snail *Physa acuta* group and the Zebra Mussel *Dreissena polymorpha*.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Athripsodes aterrimus</i> (Stephens)	A	<i>Helobdella stagnalis</i> (L.)	A
<i>Athripsodes cinereus</i> (Curtis)	A	<i>Asellus aquaticus</i> (L.)	C
<i>Ceraclea senilis</i> (Burmeister)	A	Chironomidae	D
<i>Mystacides azurea</i> (L.)	A	Oligochaeta	B
<i>Caenis horaria</i> (L.)	A	Hydracarina	A
<i>Caenis luctuosa</i> group	A	Ceratopogonidae	A
<i>Neureclipsis bimaculata</i> (L.)	A	<i>Dreissena polymorpha</i> (Pallas)	A
<i>Halesus</i> sp.	A		
<i>Limnephilus lunatus</i> Curtis	B		
<i>Potamophylax</i> group	A		
<i>Acroloxus lacustris</i> (L.)	A		
<i>Crangonyx pseudogracilis</i> Bousfield	B		
<i>Gammarus pulex</i> (L.)	B		
<i>Ischnura elegans</i> (Van der Linden)	A		
<i>Simulium</i> ( <i>Boophthora</i> ) <i>erythrocephalum</i> (de Geer)	A		
<i>Dendrocoelum lacteum</i> (Müller)	A		
<i>Baetis vernus</i> Curtis	A		
<i>Sialis lutaria</i> (L.)	A		
<i>Valvata piscinalis</i> (Müller)	A		
<i>Potamopyrgus jenkinsi</i> (Smith)	A		
<i>Bithynia leachii</i> (Sheppard)	A		
<i>Bithynia tentaculata</i> (L.)	A		
<i>Physa acuta</i> group	A		
<i>Gyraulus albus</i> (Müller)	A		
Sphaeriidae	C		



**Macroinvertebrate taxon list for New Years Green Bourne above Frays River (TQ05358630) - 21/9/95**

No Red Data Book or Notable species were found in sample. Of the recorded taxa the following occur in <5% of the RIVPACS III reference sites; the caddis species *Neureclipsis bimaculata* and *Cyrnus flavidus*, the water beetle *Graptodytes pictus*, the Ear Snail *Lymnaea auricularia*, the snail *Physa acuta* group, the Flat Ramshorn snail *Hippeutis complanatus* and the Zebra Mussel *Dreissena polymorpha*.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Athripsodes aterrimus</i> (Stephens)	B	<i>Bithynia tentaculata</i> (L.)	B
<i>Athripsodes cinereus</i> (Curtis)	A	<i>Lymnaea auricularia</i> (L.)	A
<i>Mystacides longicornis/nigra</i>	A	<i>Physa acuta</i> group	B
<i>Calopteryx splendens</i> (Harris)	A	<i>Anisus vortex</i> (L.)	A
<i>Caenis horaria</i> (L.)	A	<i>Armiger crista</i> (L.)	A
<i>Caenis luctuosa</i> group	A	<i>Gyraulus albus</i> (Müller)	B
<i>Cyrnus flavidus</i> McLachan	A	<i>Hippeutis complanatus</i> (L.)	B
<i>Neureclipsis bimaculata</i> (L.)	A	<i>Planorbis carinatus</i> Müller	A
<i>Crangonyx pseudogracilis</i> Bousfield	A	Sphaeriidae	C
<i>Gammarus pulex</i> (L.)	C	<i>Glossiphonia complanata</i> (L.)	A
<i>Ischnura elegans</i> (Van der Linden)	B	<i>Helobdella stagnalis</i> (L.)	B
<i>Sigara dorsalis</i> group	A	<i>Theromyzon tessulatum</i> (Müller)	A
<i>Sigara falleni</i> (Fieber)	A	<i>Asellus aquaticus</i> (L.)	C
Dytiscidae	A	Chironomidae	D
<i>Graptodytes pictus</i> (Fabricius)	A	Oligochaeta	B
<i>Simulium</i> ( <i>Boophthora</i> ) <i>erythrocephalum</i> (de Geer)	A	<i>Dreissena polymorpha</i> (Pallas)	A
<i>Dugesia polychroa</i> group	A	Ceratopogonidae	A
<i>Dugesia tigrina</i> (Girard)	B	Ostracoda	A
<i>Polycelis nigra</i> group	A	<i>Limnophora</i> sp.	A
<i>Cloeon dipterum</i> (L.)	B		
<i>Sialis lutaria</i> (L.)	A		
<i>Valvata piscinalis</i> (Müller)	A		
<i>Potamopyrgus jenkinsi</i> (Smith)	C		
<i>Bithynia leachii</i> (Sheppard)	A		

Macroinvertebrate taxon list for Old River Chess at Latimer Park Farm (SU99909850) - 14/11/95

The Notable riffle beetle *Riolus subviolaceus* was found in sample. None of the other recorded taxa occur in <5% of the RIVPACS III reference sites.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Athripsodes aterrimus</i> (Stephens)	A	<i>Lymnaea stagnalis</i> (L.)	A
<i>Athripsodes cinereus</i> (Curtis)	B	<i>Physa fontinalis</i> (L.)	A
<i>Mystacides azurea</i> (L.)	B	<i>Anisus vortex</i> (L.)	A
<i>Sericostoma personatum</i> (Spence)	A	<i>Gyraulus albus</i> (Müller)	A
<i>Caenis luctuosa</i> group	B	Sphaeriidae	B
<i>Agapetus</i> sp.	A	<i>Glossiphonia complanata</i> (L.)	A
<i>Rhyacophila dorsalis</i> (Curtis)	A	<i>Helobdella stagnalis</i> (L.)	A
Limnephilidae	A	<i>Asellus aquaticus</i> (L.)	B
<i>Anycus fluviatilis</i> Müller	A	Chironomidae	B
<i>Gammarus pulex</i> (L.)	C	Oligochaeta	C
<i>Sigara dorsalis</i> group	A	Ceratopogonidae	A
<i>Haliplus</i> sp.	A	Hydracarina	A
<i>Elmis aenea</i> (Müller)	C	Ostracoda	A
<i>Riolus subviolaceus</i> (Müller)	A	<i>Limnophora</i> sp.	A
<i>Hydropsyche siltalai</i> Döhler	B		
<i>Dicranota</i> sp.	B		
<i>Simulium</i> ( <i>Simulium</i> ) <i>ornatum</i> group	C		
<i>Polycelis nigra</i> group	A		
<i>Baetis rhodani</i> (Pictet)	B		
<i>Baetis scambus</i> group	A		
<i>Sialis lutaria</i> (L.)	A		
<i>Piscicola geometra</i> (L.)	A		
<i>Valvata piscinalis</i> (Müller)	A		
<i>Potamopyrgus jenkinsi</i> (Smith)	A		
<i>Lymnaea palustris</i> (Müller)	A		
<i>Lymnaea peregra</i> (Müller)	A		

# Macroinvertebrate taxon list for River Ver at Sopwell (TL15500540) - 18/9/95

No Red Data Book or Notable species were found in the sample. Of the recorded taxa only the leech species *Trocheta subviridis* was found in <5% of the RIVPACS III reference sites.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Athripsodes cinereus</i> (Curtis)	A	Oligochaeta	C
<i>Mystacides azurea</i> (L.)	B	Ceratopogonidae	A
<i>Tinodes waeneri</i> (L.)	A	<i>Limnophora</i> sp.	A
Limnephilidae	A		
<i>Anyclus fluviatilis</i> Müller	B		
<i>Hydroptila</i> sp.	A		
<i>Gammarus pulex</i> (L.)	D		
<i>Elmis aenea</i> (Müller)	B		
<i>Hydropsyche angustipennis</i> (Curtis)	C		
<i>Simulium</i> ( <i>Simulium</i> ) <i>ornatum</i> group	A		
<i>Simulium</i> ( <i>Wilhemia</i> ) sp.	A		
<i>Polycelis nigra</i> group	A		
<i>Dendrocoelum lacteum</i> (Müller)	A		
<i>Baetis rhodani</i> (Pictet)	B		
<i>Piscicola geometra</i> (L.)	A		
<i>Valvata piscinalis</i> (Müller)	A		
<i>Potamopyrgus jenkinsi</i> (Smith)	B		
<i>Lymnaea palustris</i> (Müller)	A		
<i>Physa fontinalis</i> (L.)	A		
<i>Bathymphalus contortus</i> (L.)	A		
<i>Gyraulus albus</i> (Müller)	A		
<i>Planorbis carinatus</i> Müller	A		
Sphaeriidae	C		
<i>Glossiphonia complanata</i> (L.)	B		
<i>Trocheta subviridis</i> Dutrochet	A		
<i>Asellus aquaticus</i> (L.)	B		
Chironomidae	B		

# Macroinvertebrate taxon list for River Ver above Colne (TL14200140) - 18/9/95

No Red Data Book or Notable species were found in sample. Of the recorded taxa only the caddis species *Limnephilus extricatus* occurs in <5% of the RIVPACS III reference sites.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Ephemerella ignita</i> (Poda)	A	Ostracoda	A
<i>Athripsodes cinereus</i> (Curtis)	B	Hydracarina	A
<i>Goera pilosa</i> (Fabricius)	B		
<i>Calopteryx splendens</i> (Harris)	B		
<i>Caenis luctuosa</i> group	A		
<i>Limnephilus extricatus</i> McLachan	A		
<i>Anyclus fluviatilis</i> Müller	A		
<i>Gammarus pulex</i> (L.)	D		
<i>Brychius elevatus</i> (Panzer)	A		
<i>Elmis aenea</i> (Müller)	C		
<i>Hydropsyche angustipennis</i> (Curtis)	B		
<i>Hydropsyche pellucidula</i> (Curtis)	B		
<i>Simulium</i> ( <i>Boophthora</i> ) <i>erythrocephalum</i> (de Geer)	A		
<i>Simulium</i> ( <i>Simulium</i> ) <i>ornatum</i> group	A		
<i>Simulium</i> ( <i>Wilhemia</i> ) sp.	A		
<i>Baetis rhodani</i> (Pictet)	A		
<i>Baetis scambus</i> group	A		
<i>Baetis vernus</i> Curtis	B		
<i>Sialis lutaria</i> (L.)	A		
<i>Potamopyrgus jenkinsi</i> (Smith)	C		
<i>Anisus vortex</i> (L.)	A		
<i>Planorbis carinatus</i> Müller	A		
Sphaeriidae	B		
<i>Glossiphonia complanata</i> (L.)	A		
<i>Asellus aquaticus</i> (L.)	A		
Chironomidae	B		
Oligochaeta	C		

Macroinvertebrate taxon list for Wraysbury River at Staines Moor/Hythe End  
(TQ02707320) - 15/5/95

No Red Data Book or Notable species were found in the sample. Of the recorded taxa only the mayfly species *Ephemera vulgata* occurs in <5% of the RIVPACS III reference sites.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Ephemerella ignita</i> (Poda)	B	<i>Armiger crista</i> (L.)	A
<i>Ephemera danica</i> Müller	A	<i>Gyraulus albus</i> (Müller)	A
<i>Ephemera vulgata</i> L.	A	Sphaeriidae	C
<i>Athripsodes cinereus</i> (Curtis)	B	<i>Glossiphonia complanata</i> (L.)	A
<i>Ceraclea dissimilis</i> (Stephens)	A	<i>Erpobdella octoculata</i> (L.)	A
<i>Calopteryx splendens</i> (Harris)	A	<i>Asellus aquaticus</i> (L.)	B
<i>Tinodes waeneri</i> (L.)	A	Chironomidae	C
<i>Caenis luctuosa</i> group	C	Oligochaeta	C
<i>Polycentropus flavomaculatus</i> (Pictet)	A	Ceratopogonidae	A
<i>Anycus fluviatilis</i> Müller	B	<i>Hemerodromia</i> sp.	A
<i>Hydroptila</i> sp.	B	Ephydriidae	A
<i>Gammarus pulex</i> (L.)	C		
<i>Ischnura elegans</i> (Van der Linden)	A		
<i>Elmis aenea</i> (Müller)	B		
<i>Hydropsyche pellucidula</i> (Curtis)	B		
<i>Hydropsyche siltalai</i> Döhler	B		
<i>Simulium</i> ( <i>Boophthora</i> ) <i>erythrocephalum</i> (de Geer)	B		
<i>Simulium</i> ( <i>Wilhemia</i> ) sp.	B		
<i>Polycelis nigra</i> group	A		
<i>Baetis scambus</i> group	B		
<i>Baetis vernus</i> Curtis	B		
<i>Sialis lutaria</i> (L.)	A		
<i>Valvata piscinalis</i> (Müller)	B		
<i>Bithynia tentaculata</i> (L.)	B		
<i>Lymnaea peregra</i> (Müller)	A		
<i>Anisus vortex</i> (L.)	A		

Macroinvertebrate taxon list for Wraysbury River at Staines Moor/Hythe End  
(TQ02707320) - 23/10/95

The Notable hydrophilid water beetle *Helochaeres lividus* was found in the sample. Of the other recorded taxa the mayfly *Ephemera vulgata* and the dipteran family Sciomyzidae occur in <5% of the RIVPACS III reference sites.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Ephemera danica</i> Müller	A	<i>Bithynia leachii</i> (Sheppard)	A
<i>Ephemera vulgata</i> L.	A	<i>Bithynia tentaculata</i> (L.)	A
<i>Molanna angustata</i> Curtis	A	<i>Lymnaea stagnalis</i> (L.)	A
<i>Athripsodes cinereus</i> (Curtis)	A	<i>Anisus vortex</i> (L.)	A
<i>Mystacides azurea</i> (L.)	B	<i>Gyraulus albus</i> (Müller)	A
<i>Mystacides nigra</i> (L.)	A	Sphaeriidae	A
<i>Calopteryx splendens</i> (Harris)	B	<i>Glossiphonia complanata</i> (L.)	A
<i>Tinodes waeneri</i> (L.)	A	<i>Helobdella stagnalis</i> (L.)	A
<i>Lype</i> sp.	A	<i>Erpobdella octoculata</i> (L.)	A
Limnephilidae	A	<i>Asellus aquaticus</i> (L.)	B
<i>Caenis luctuosa</i> group	C	Chironomidae	B
<i>Anycus fluviatilis</i> Müller	A	Oligochaeta	B
<i>Gammarus pulex</i> (L.)	B	Ostracoda	A
<i>Ischnura elegans</i> (Van der Linden)	A	<i>Simocephalus</i> sp.	A
<i>Potamonectes depressus</i> (Fabricius)	A	Sciomyzidae	A
<i>Helochaeres lividus</i> (Forster)	A		
<i>Elmis aenea</i> (Müller)	A		
<i>Hydropsyche pellucidula</i> (Curtis)	A		
<i>Hydropsyche contubernalis</i> McLachan	A		
<i>Simulium</i> ( <i>Boophthora</i> ) <i>erythrocephalum</i> (de Geer)	A		
<i>Simulium</i> ( <i>Wilhemia</i> ) sp.	A		
<i>Dugesia tigrina</i> (Girard)	A		
<i>Sialis lutaria</i> (L.)	A		
<i>Valvata piscinalis</i> (Müller)	B		
<i>Potamopyrgus jenkinsi</i> (Smith)	A		

Macroinvertebrate taxon list for Wraysbury River below Horton Road, Poyle (TQ03407550) - 15/5/95

No Red Data Book or Notable species were found in the sample. Of the recorded taxa only the mayfly species *Ephemera vulgata* occurs in <5% of the RIVPACS III reference sites.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Ephemerella ignita</i> (Poda)	B	<i>Baetis vernus</i> Curtis	B
<i>Ephemera danica</i> Müller	A	<i>Piscicola geometra</i> (L.)	A
<i>Ephemera vulgata</i> L.	A	<i>Valvata piscinalis</i> (Müller)	B
<i>Athripsodes cinereus</i> (Curtis)	B	<i>Potamopyrgus jenkinsi</i> (Smith)	B
<i>Ceraclea dissimilis</i> (Stephens)	A	<i>Bithynia tentaculata</i> (L.)	B
<i>Mystacides azurea</i> (L.)	A	<i>Lymnaea palustris</i> (Müller.)	A
<i>Calopteryx splendens</i> (Harris)	B	<i>Lymnaea peregra</i> (Müller)	B
<i>Tinodes waeneri</i> (L.)	B	<i>Anisus vortex</i> (L.)	B
<i>Caenis luctuosa</i> group	C	<i>Armiger crista</i> (L.)	A
<i>Polycentropus flavomaculatus</i> (Pictet)	A	<i>Gyraulus albus</i> (Müller)	A
<i>Limnephilus lunatus</i> Curtis	A	Sphaeriidae	B
<i>Anyclus fluviatilis</i> Müller	B	<i>Glossiphonia complanata</i> (L.)	A
<i>Hydroptila</i> sp.	B	<i>Erpobdella octoculata</i> (L.)	B
<i>Gammarus pulex</i> (L.)	C	<i>Asellus aquaticus</i> (L.)	B
<i>Ischnura elegans</i> (Van der Linden)	A	Chironomidae	C
<i>Elmis aenea</i> (Müller)	A	Oligochaeta	B
<i>Oulimnius tuberculatus</i> (Müller)	A	Ostracoda	A
<i>Hydropsyche angustipennis</i> (Curtis)	A	Hydracarina	B
<i>Hydropsyche pellucidula</i> (Curtis)	B	Ceratopogonidae	B
<i>Hydropsyche siltalai</i> Döhler	A	<i>Hemerodromia</i> group	A
<i>Simulium</i> (Nevermannia) <i>angustitarse</i> group	A		
<i>Simulium</i> (Boophthora) <i>erythrocephalum</i> (de Geer)	A		
<i>Simulium</i> (Wilhemia) sp.	A		
<i>Dendrocoelum lacteum</i> (Müller)	A		
<i>Baetis scambus</i> group	B		

**Macroinvertebrate taxon list for Wraybury River below Horton Road, Poyle (TQ03407550) - 6/11/95**

No Red Data Book or Notable species were found in the sample. Of the recorded taxa the following species occur in <5% of the RIVPACS III reference sites; the mayfly *Ephemera vulgata*, the Ear Snail *Lymnaea auricularia*, the leech *Glossiphonia heteroclita* and the dipteran *Psychoda severini*.

<u>Taxa</u>	<u>Abundance</u>	<u>Taxa</u>	<u>Abundance</u>
<i>Ephemera danica</i> Müller	A	<i>Bithynia leachii</i> (Sheppard)	A
<i>Ephemera vulgata</i> L.	A	<i>Bithynia tentaculata</i> (L.)	A
<i>Athripsodes cinereus</i> (Curtis)	B	<i>Lymnaea auricularia</i> (L.)	A
<i>Mystacides azurea</i> (L.)	B	<i>Lymnaea peregra</i> (Müller)	B
<i>Molanna angustata</i> Curtis	A	<i>Lymnaea stagnalis</i> (L.)	A
<i>Calopteryx splendens</i> (Harris)	B	<i>Anisus vortex</i> (L.)	A
<i>Tinodes waeneri</i> (L.)	B	<i>Armiger crista</i> (L.)	B
<i>Caenis luctuosa</i> group	D	<i>Gyraulus albus</i> (Müller)	B
<i>Polycentropus flavomaculatus</i> (Pictet)	B	Sphaeriidae	C
<i>Anyclus fluviatilis</i> Müller	B	<i>Glossiphonia complanata</i> (L.)	A
<i>Hydroptila</i> sp.	A	<i>Glossiphonia heteroclita</i> (L.)	A
<i>Gammarus pulex</i> (L.)	C	<i>Helobdella stagnalis</i> (L.)	A
<i>Ischnura elegans</i> (Van der Linden)	A	<i>Erpobdella octoculata</i> (L.)	B
<i>Potamonectes depressus</i> (Fabricius)	A	<i>Asellus aquaticus</i> (L.)	B
<i>Orectochilus villosus</i> (Müller)	A	Chironomidae	C
<i>Elmis aeneus</i> (Müller)	B	Oligochaeta	C
<i>Hydropsyche angustipennis</i> (Curtis)	A	Ostracoda	B
<i>Hydropsyche pellucidula</i> (Curtis)	A	Hydracarina	A
<i>Hydropsyche siltalai</i> Döhler	A	<i>Psychoda severini</i> Tonnoir	A
<i>Simulium</i> (Nevermannia) angustitarse group	A		
<i>Simulium</i> (Wilhemia) sp.	A		
<i>Baetis scambus</i> group	A		
<i>Sialis lutaria</i> (L.)	A		
<i>Valvata piscinalis</i> (Müller)	B		
<i>Potamopyrgus jenkinsi</i> (Smith)	B		



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